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MEMORIAL OF ROBERT McCORMICK

—GIFT OF—
DAVID STARR JORDAN

MEMORIAL

OF

ROBERT McCORMICK,

LIFE, CHARACTER AND INVENTIONS,

THE EARLY HISTORY OF

THE McCORMICK REAPER.

MEMORIAL

OF

ROBERT McCORMICK,

BEING A BRIEF HISTORY OF HIS

LIFE, CHARACTER AND INVENTIONS,

INCLUDING

THE EARLY HISTORY OF

THE McCORMICK REAPER.

CHICAGO:
BARNARD & GUNTHORP, PRINTERS, 44 & 46 LASALLE STREET.
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PREFACE.

This book is a photo-engraved reprint of a pamphlet printed in Chicago in 1885. As it contains much valuable history, it is thought to be a suitable compliment to "Overlooked Pages of Reaper History, Chicago, Illinois, 1897." The name of the author is not given in the original publication, but the contents show plainly an effort to establish the fact that to Robert McCormick and Leander McCormick of Virginia belongs the credit of inventing the McCormick reaper.

J. RUSSELL PARSONS,
LEWIS MILLER,
JOHN F. STEWARD.

CHICAGO, ILLINOIS, June, 1898

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ROBERT MCCORMICK.

SKETCH OF HIS BIRTH, LIFE, CHARACTER, INVENTIONS, ETC.

Robert McCormick, the subject of this sketch, was the sixth child of Robert and Martha (Sanderson) McCormick; he was born June 8, 1780, in a large old-fashioned log house on "Walnut Grove" farm, his father's homestead, in Rockbridge county, Virginia. His father, Robert, was a native of Central Pennsylvania, having been born near Harrisburg in 1738. His grandparents, Thomas and Elizabeth (Carruth) McCormick, came to America from the North of Ireland, in 1735.

Mr. McCormick received a common school education at a country school, near his own home, and was brought up by his parents according to the strictest tenets of the Seceder branch of the Presbyterian church.

On February 11, 1808, he married Mary Anna Hall, daughter of Patrick and Susan (McChesney) Hall.*

Mr. McCormick was a man of great energy, and determination of character, but withal of a most kind and generous disposition. He was highly esteemed as an upright, reliable citizen, a man of great moral worth, and one "whose word was as good as his bond."

When advised by his lawyer at one time when in financial trouble (brought about through the rascality of his partner) that he could legally evade paying his debts that were pressing him, by putting his property out of his hands, his reply was "no, I would rather die and leave my children without one dollar, than that it should ever be said that their father had done a dishonest act."

Throughout his life he took great pleasure in the acquirement of historical and scientific knowledge, and was very fond of astronomy. He subscribed to the leading magazines of the day, and kept himself well posted in all that was transpiring around him.

He was a man of remarkable mechanical genius, and seldom failed to accomplish what he undertook. Having blacksmith and carpenter shops, and being himself naturally a good workman with

* Patrick Hall was born in Armagh county, Ireland, in 1751, emigrated to America in 1770 and settled in Augusta county, Va., where he married Susan McChesney about the year 1775.

almost any kind of tools, it was no hard matter for him to make whatever he desired of either wood or iron.

The first record we have of his endeavors in the line of invention was in the construction of a reaping machine, on which he worked and experimented from and after 1809 From the nature of the testimony concerning his early inventions in this line, it would appear that he may have constructed more than one machine between the years 1809 and 1825. At all events, there is evidence to show that he was engaged at various times during those years, experimenting on his reaper, and that he used various devices for cutting, and in all probability he made more than one complete machine during all those sixteen or seventeen years. This would seem to be corroborated by the statements, first, of his nephew (Robert McCormick), who says that his father told him that the said Robert McCormick had invented a reaper in 1809; second, of his son Cyrus, who states that his father had invented a reaper in 1816; third, by Robert McCormick (his nephew), again, who states that his uncle Robert showed him in the year 1825 or 1826, a machine he had just invented.

His first machine is described as being in outline and general form very much like the reaper of the present day. It ran on two wheels, with a platform to receive the grain in the rear of the cutting apparatus. One of the cutting devices he used on this machine was a system of rotary saws, about eight or ten inches in diameter, which revolved, shear fashion, past the edge of a stationary knife. The saws were driven by bands from a cylinder, which was turned by the revolution of the main wheels of the machine. This machine had vertical reels (very similar to some of those used at the present day) to sweep the grain across the cutters, and when cut, delivered it on a platform in the rear of the cutters, and an endless apron carried it across the platform and delivered it on one side of the machine. Another cutting device which he used consisted of stationary cuvued sickles, against which the grain was forced and cut by vertical reels with pins in their peripheries. The horses walked at the side of the grain, drawing the machine, and were attached to it by shafts or a pole. The machine was not what would be called a success, but it had the main features that are vital in the construction of all grain cutting machines of the present day, and therein justifies the claim made for its author, of originality of thought, and priority of invention, and demonstrates beyond a doubt that in him was the conception of, and to him belongs the credit of inventing, and constructing the first reaper which cut grain successfully The certificates printed hereafter clearly establish the fact that he anticipated, in nearly all essential and vital points, every other American or English reaper. The

parts of his early machine were for many years stored away in the loft of the old malt house, on the home farm, and were familiar objects to those about the farm.

Recognizing the imperfections in the machine, and always on the alert for improvements, between the years 1828 and 1830* he invented and applied to it what is known as the vibrating sickle and the horizontal reel. By this combination his reaper became a practical success. His neighbors, who up to that time had made light of his efforts and reflected upon him for wasting time that they thought he could have applied to much better advantage by attending to his farm duties, now began to appreciate the greatness of his inventions, and to recognize in the McCormick Reaper the pioneer of the greatest labor-saving farm implement that the world had produced. Like its predecessor, but to a greater degree, in its characteristics this machine comprised the essential features of all successful grain-cutting machinery of the present day. It was drawn by two horses that walked in front of the main frame and close to the standing grain. It had one main driving wheel in the main frame, and a grain wheel or slide at the outer end of the platform. It had a cutter bar, attached to and back of which was the platform on which the grain fell. The grain was cut by a vibrating sickle, and carried back to the sickle and cast down upon the platform by a revolving horizontal reel. The reel had slats, or ribs, which dipped into the grain in front of the sickle. The grain divider of the machine was a long pointed piece of wood extending some five feet forward of the sickle, to support the grain end of the reel. The entire side of the machine, from the point of the divider named to the rear corner of the platform and across the back of the platform, was surrounded with an upright canvas about three feet in width. The grain was raked off at the side in bundles by a man who walked beside the machine. The driver did not ride on the machine, but on one of the horses that drew it.

During the years previous to 1844 there were a number of machines built. In 1844 there were twenty-five built. In 1845 there were fifty built. In 1846 there were seventy-five built, in the latter L. J. owned one-third.

All of the work on these machines was done under the direction of Robert McCormick, who continued to be actively engaged in the manufacture and improvement of his reaping machines until his death in 1846.

From this modest beginning dates the history of the vast business of manufacturing grain and grass cutting machinery, which at the present day, gives employment, directly and indirectly, to tens of

* See certificate of William S. McCormick, pages 7, 8 and 9.

thousands of men, affords investment for millions of dollars, and turns the countless wheels of an amount of machinery that, were it possible to give the figures, it would seem incredible. When we think of the thousands of reaping and mowing machines that are annually sold to the farmers on every continent, and the millions of such machines that are now in operation, what man can look at the record of Robert McCormick's perseverance and success, in the face of innumerable obstacles, without feelings of reverence and admiration for the man in whose brain was the inception, and through whose mechanical skill and ingenuity was the successful application of an invention which has proven so great and world-wide a boon, not only to the farming community, but, indirectly, to all civilized mankind.

But the reaping machine was not the only mechanical problem that commanded the thought and inventive genius of Robert McCormick. He found time to exercise his inventive mind in other directions as well, and reaped harvests of success in several other mechanical inventions, briefly described as follows:

In the winter of 1830–31 there was a great deal of talk and much in the newspapers on the subject of raising hemp. Only one thing seemed to be in the way of its becoming a very profitable product, and that was the difficulty of cheaply and profitably reducing the fiber to its required marketable shape. Acting on this seeming demand, Robert McCormick invented a very ingenious and perfect working hemp-break, and in connection with it a horse-power, by which it was driven, and in the fall of 1831 he operated it successfully. He also invented a machine for cleaning the hemp when broken. The excitement over hemp-raising, however, dying out, the demand for the machines never amounted to much, although a number of them were built and sold.

Mr. McCormick at another time invented and manufactured a very ingenious threshing machine, in connection with which he made a horse power of peculiar construction.

He also built a clover sheller of stone, resembling an ordinary mill somewhat, but never did anything with it except for his own use. He also invented and made a blacksmith's bellows, which was of a tub form, and of which he built and sold a large number.

He invented a water power that worked by confined pressure, somewhat on the principal of the steam engine.

He also invented a hill-side plow,* for which alone he is entitled to rank among the first inventors of the age, and had it not been for the invention and perfection of the reaper, it would probably have made the name McCormick as well known in connection with

* See letter of Wm. S. McCormick, pages 7, 8 and 9.

that line of industry as it is in connection with the harvesting of the crops.

As it was Mr. McCormick's ambition that his sons should follow husbandry as a profession, he purchased a farm of three hundred acres, situated a mile and a half from his own homestead, and another of seven hundred acres on the South river, nine miles west of his home. On each of these places he had a saw mill, and on the South river farm and his home place he had flour mills, which he operated successfully.*

It will be seen that he was a man of great business and executive ability, as well as inventive genius, when the extensive operations he had on hand constantly are considered. For many years he carried on farming on four farms, aggregating in all 1,800 acres, and at the same time operated two flour mills and two saw mills, besides which he kept carpenter and blacksmith shops busy, manufacturing various kinds of machinery of his own invention. In all of these operations he had employed during much of the time both white and slave labor.

About the year 1834 Mr. McCormick engaged with his son Cyrus and a man by the name of Black in the iron smelting business, which proved to have been the one great mistake of his life. They bought land and built what is known as the "Cotopaxi Furnace," which was situated on the South river, four miles from Mr. McCormick's home. Mr. McCormick furnished the entire capital for conducting the business, although his interest in the enterprise was one-quarter, while his son Cyrus owned one-half. The money of the firm was deposited in a bank in Richmond. After several years of meager results came the financial panic of 1837. At this time Black drew the firm's cash from the bank, and then put all his own property out of his hands. Thus there was no money available to meet the indebtedness of the firm, and their rascally partner could not be made to disgorge one dollar of the funds he had embezzled. In this combination of misfortunes the furnace had to be closed, and Mr. Robert McCormick had to bend every energy to the liquidating and settling the claims of the firm's creditors.

Mr. McCormick was compelled, on account of this trouble, to sell the old Providence farm which belonged to his wife, as well as the furnace property. Cyrus soon after left home with the intention of seeing what he could do towards establishing and introducing the reaper into the vast wheat fields of the west. Leander

* Prior to 1837, Mr. McCormick gave the south river farm to his son Cyrus H., but on account of the losses sustained in the furnace business, he deeded back that property to his father, in part payment of his share of said losses. Mr. McCormick afterwards gave the same property to his son Leander J.

He gave the home farm, at his death, to his son William S.

left school, and went into the shop; William S. took entire management of the farming operations and finances, while Mr. McCormick and Leander made reapers, horse-powers, blacksmith's bellows, and other machinery and tools which were sold. Thus the family immediately combined their efforts to free themselves from these obligations, and the proceds of everything that could be turned into cash was applied to the extinguishing of debts for which Mr. McCormick became liable through his connection with that unfortunate enterprise.

About the time he was beginning to feel the freedom of once more being out of debt, he was overtaken by a heavy snow storm in coming home from his South River farm, where he had been attending to the shipment of reaping machines to Lynchburg. He thus became chilled, took a severe cold which settled on his lungs, and from the effects of which he never recovered.

He died at his home in Rockbridge county, Virginia, on July 4. 1846, and was buried in the old Providence grave yard.

He had a family of eight children, five sons and three daughters, viz: Cyrus H., Robert Hall, Susan, William Sanderson, Mary Caroline, Leander James, John Prestley, and Amanda J. Two of his sons and one daughter died young. His three sons, Cyrus H., William S., and Leander J., settled in Chicago and engaged in the manufacture of reapers and mowers, and from their combined efforts grew the great manufacturing concern bearing the name of " McCormick." *

* It may be interesting to know in this connection that on the death of Mr. Robert McCormick, his son Leander went to live on the South River farm, which had been left him by his father, and was arranging to continue the manufacture of reapers at that place (as the farm was provided with a saw mill and the other necessary appliances, as stated above), when Cyrus induced him to go to Cincinnati to superintend the construction of one hundred machines for the harvest of 1847, by offering him a one-third interest in the business at that place. He returned to Virginia in the fall of that year, and made the necessary arrangements and came to Chicago to live in 1848, when he took charge of the manufacturing department for McCormick, Ogden & Co., a one-sixth interest in the business having been given him. William S remained on the home farm, it having been left him by his father, but was also induced to come to Chicago in 1850, and assumed the charge of the financial department. In this way the three brothers, Cyrus H., W. S. and L J., became united in introducing and bringing to perfection in the west the work already begun by their father

A MEMORIAL

OF THE

Early History and Invention of the McCormick Reaper.

By WILLIAM S. McCORMICK, of Wayne County, Missouri.

My name is William S. McCormick. I am seventy-six years of age. I was born in Augusta county, Virginia.

I am intimately acquainted with the invention of the McCormick Reaper. I saw this great machine progress step by step from the unsuccessful experiment my uncle, Robert McCormick, first tried prior to the fall of 1828 or spring of 1829, when I went to live with my uncle, Robert McCormick. This machine was a small two-wheeled reaper, drawn by a horse in shafts, with stationary cutters. This failed to work and it was laid aside by my uncle.

And I was personally present when my old uncle, Robt. McCormick, the father of C. H. and L. J. McCormick, first conceived the idea of his second reaping machine, subsequently patented. This was in 1829 or 1830. I myself and one Samuel Hite were the men who did the work for Robert McCormick while he invented and experimented with the machine. I know that Robt. McCormick was the sole inventor of the reaping machine. His skillful brain invented each parcel of the reaper in the order I now name:

The machine was drawn by horses in front by the standing grain. It had a master-wheel, say three feet in diameter. The sickle was vibrating and driven by a crank which got its motion from gear-wheels from the main axle. The sickle was supported by projecting fingers about three inches apart. Behind this sickle there was a platform on which the grain fell, where it was swept back by the revolving horizontal reel to the sickle and cut, and was raked by a man. The reel was supported by posts at each end and was driven by a band from the main axle.

The foregoing described machine was invented solely and alone by my uncle Robert McCormick. This I know. There can be no doubt about it whatever. I was present. I lived with my uncle and worked with him on this machine. He gave his orders and they were followed by myself and other workmen. He made his suggestions and we followed them. He directed changes and we made

them. I know that the conception and creation was wholly from his own brain. I never heard his right as the inventor of this machine questioned by any one, nor did I hear any one else at that time claim any of the invention. On the contrary I know that my uncle, Robt. McCormick, claimed the invention of the machine, He was endowed with a mind skilled and inventive, and he had invented other matters.

In witness of the foregoing statement I have hereunto set my hand this 5th day of June, 1880.

(Signed) WM. S. MCCORMICK.

MARCH 4, 1880.

PATTERSON, WAYNE COUNTY, MO., Nov. 7th, 1878.

DEAR COUSIN; Yours of October 28th has just come to hand and found myself and wife both very feeble in health.

I will, however, answer your letter and give you such facts as I can call to mind or gather up in regard to the early history of the McCormick Reaper.

My uncle, Robert McCormick, had built a small two-wheeled reaper with stationary cutters, drawn by a horse in shafts, which failed to work, and he laid it aside, before I went to live with him, which was in the fall of 1828 or in the spring of 1829. And I was personally present when uncle Robert conceived the idea of his second machine. Myself and Sam Hight were the workmen who did the work; Cyrus McCormick helping also. But as to the invention of the machine, that was my dear old uncle Robert's and none else. In several cases in putting it up he would speak to me noting it thus and so, as I was his right-hand man; but he was the sole inventor of the whole thing, for I know it well.

I was living with him for some time before he tried his second wheat cutter. The first thing I helped him to do was to build a water-power to operate like steam from the old mill-trunk; but it would not work. Next we tried a horse-power (hemp break), which did exceedingly well; and next was his second wheat-cutter. And all from his own head. He was the greatest genius or natural mechanic I ever saw—at least I looked upon him as such.

The machine was drawn by the horses in front by the standing grain; and it was built on one master-wheel, say three feet in diameter, and ran out into the grain to the right the length of the sickle, with a slide on the further end. The sickle cut by horizontal crank motion from the main wheel. The reel worked by bands over the cutter, put in motion by a crank by the master-wheel horizontal. The wheat was thrown down behind the platform by the reel and raked off by hand.

You know the blacksmith bellows my uncle Robert invented were in operation in his shop before I went there to live in 1828.

And as to his hill side plow, the two mole-boards were attached together, but could move under the beam and formed the land side in going one way, and the other going the other; but the sheer moved only a little hard. Had a cutter on both ends.

This is about as well as I can recollect so far back.

WM. S. McCORMICK.

PATTERSON, WAYNE CO., MO., Nov. 28, 1878.

DEAR COUSIN: Yours of the 2d inst. just came to hand, and I am just able to be up most all the time, but my companion is now down while I write.

Now, as to the machine, etc.: From the best information I can get from my old torn books, the work was done in making the first reaping machine at your father's, in the year 1829. I made bellows at your papa's in the year 1830, after we came back from Washington city, where your father, Cyrus and myself had gone for the purpose of getting a patent for the reaper. My age at that time was twenty-five years.

The machine was pretty much the "Old Reliable"—the horses hitched to it in the same way. At least the "Old Reliable" was made from it. The sickle, or cutter, was straight and cut with a crank motion, and the reel or rake turned with a band over the cutter and threw the wheat on the platform, and when there was sufficient for a bundle it was raked off by hand. This is about the best recollection of the same at this late date.

My dear old uncle had made a small machine, or part of one, before I went there to live with him that stood up, and a crooked cutter was to come around horizontally, but it never did any good, and I have often laughed at him about it, and he never did anything more with it after I came to live with him. He never made but the one machine while I lived there with him. I lived with him there till about the last of the year 1831. I was making bellows all the time.

I believe I have given you about all the information I can respecting the first wheat-cutter made by your father, and if I can do anything more for you in that line it will be most cheerfully done. So, no more at present, but remain,

Your most affectionate cousin,

WM. S. McCORMICK.

P. S.—My impression was, before I left the State of Virginia, that my uncle had given it to Cyrus; but I don't think I got it directly from himself. WM. S. McC.

A MEMORIAL

OF THE

HISTORY AND INVENTION OF THE McCORMICK REAPER.

By ROBERT McCORMICK, County of Augusta, State of Virginia;
Aged 76 Years.

My first recollection of the invention of the McCormick Reaper was in 1809, when I was a small boy. My father told me that his brother Robert (father of Cyrus H. and L. J. McCormick) had invented a reaping machine to be drawn by horse-power, but that their father discouraged the work at the time.

In 1825 or 1826 Robert McCormick (father of Cyrus H. and L. J. McCormick) came to me and told me he had invented a reaping machine, and requested me to go over to his house and look at it. I went over to Robert McCormick's, and he got the machine out of the malt-house and put it up in the yard. The reaping-machine was constructed of small circular saws eight or ten inches in diameter, which bent the grain to the sickle. It was caught by bands, carried to the side and deposited by the bands. During the harvest of 1825 or 1826 this machine was used on Robert McCormick's farm. But the great objection to this machine was that when the grain was dry or very ripe it got fastened in the bands.

After this harvest Robert McCormick obtained an entire sickle which worked by a crank. Robert McCormick invented and adopted the reel.

I am prepared to declare from my personal knowledge of the facts, that Robert McCormick (father of C. H. and L. J. McCormick) is the inventor of the McCormick Reaper. Robert McCormick had repeated conversations with me about his invention, and I know that he is entitled to the credit of this invention. He might have patented his reaper eight or ten years before it was patented. He then gave the right to the patent to C. H. McCormick, his son.

Given under my hand this 18th day of February, 1879.

(Signed) ROBERT. McCORMICK.

Witnesses:

S. McCORMICK.

M. S. McCORMICK.

MEMORIAL

OF THE

Early History and Invention of the McCormick Reaper.

By Col. Thomas S. Paxton, of West of Fairfield, Rockbridge Co., Va.; Aged 77 Years.

I was acquainted, and intimately acquainted, with Robert McCormick, and knew all his family well. I knew him first in 1827 or 1828, and until his death. He was not a communicative man. He always kept his counsel in business and purpose pretty much to himself, although at times he would speak somewhat of his business to his personal friends.

The first of my recollection is, although I think I heard frequently before, that Robert McCormick was inventing a reaper. I was working for Robert McCormick. I saw Mr. Robert McCormick frequently standing over the machine and musing and studying. On the occasion he had the machine in the yard. He was standing studying over it, drawing down, as was his habit, his under lip. Finally he called me to him—the machine did not work to suit him—and asked my opinion about some change he intended making in his reaper I was a mill-wright, and working in the yard near him. I gave him my advice as far as I could, and then, as he stood there studying, I remarked to the old gentleman: "*Mr. McCormick, this is not Cyrus's invention; it is yours, is it not?*" He replied at once: "Yes, but I intend to give Cyrus the benefit of it."

I have no doubt whatever myself that Robert McCormick was the original inventor of the machine. It was the general opinion of the community around and about Robert McCormick's that he was the inventor; and this was justified by the constant and unremitting labor and attention Robert McCormick bestowed on the machine, and his known ingenuity and skill in work and in invention. He invented a threshing machine, and I erected one of them that was run by water. This reaper, invented by Robert McCormick, is the same one (improved) that is now being manufactured by Cyrus H. and Leander J. McCormick in the city of Chicago.

In witness whereof I hereunto affixed my name September 10, 1878. (Signed) Col. Thomas S. Paxton.

Witnesses:

John H. Potter,

P. A. Paxton.

Early History of the McCormick Reaper.

By Leander J. McCormick.

The first I ever heard about my father's invention was about a machine which he was said to have built about the year 1809 or 1810. He afterwards built a machine which was stored, during my boyhood (and which I have often seen), in the old malt-house, and it was said to have been built about 1816, it had stationary cutters and vertical reels and a platform; was supported on two wheels and had shafts by which it was drawn.

My father built a successful reaping machine in 1831, with which he cut some grain; this machine did good work under favorable circumstances, it ran on one main driving or supporting wheel; had a vibrating sickle with a platform to receive the cut grain until a sufficient amount had been cut to form a bundle and it was then raked off and out of the way of the horses by a man who walked beside the machine, it had a reel to carry the grain back to the sickle. This machine was substantially the same as afterwards built by the family in 1844, '45, '46.

In the summer of 1845 I conceived the idea of the raker's seat, as afterwards patented by my brother Cyrus, and which was used on all the machines built from the time I invented it, until the purchase of the McClintock Young Self-Rake patent about 1868, which performed about the same work by machinery that the raker was enabled to do by hand by the use of my invention.

Immediately after I invented the seat, I attached it to the reaper as then built by my father and myself, and I wrote to my brother, Cyrus, who was then at Brockport, N. Y., giving him a full description, with drawings, etc., of the improvement. I afterwards (about the year 1868) found the letter which I had written him and which was post-marked "Brockport, N. Y.," among a lot of old papers when I was visiting the old home.

The invention might more properly be called a "raker's stand," as it enabled a man to stand on the rear portion of the machine, facing backwards, there being a timber attached to the frame of the machine extending backwards and between the raker's legs. (He stood astride.) There was a cross-board attached to this

timber for him to lean against which held him in his position while he holding the rake in both hands raked the grain from the platform.

I further wish to say that my father continued to work on his reaper year after year, from the time I was a small boy until his death, and that I never knew or heard of his having abandoned the machine or having lost confidence in it; as proof of which I will state that we built quite a large number of machines for sale during the summers of 1844, '45 and '46. I had a one-third interest in the machines built at home in 1846, and went to Cincinnati to superintend the building of one hundred machines in 1847 in which I had a one-third interest.

In witness whereof, I hereunto affix my name.

L. J. McCormick.

Chicago, August 1st, 1885.

MEMORIAL

OF THE

Early History of the McCormick Reaper.

BY HENRIETTA M. McCORMICK, wife of Leander J. McCormick.

I was married October 22, 1845, and lived in Mr. and Mrs. Robert McCormick's family some months after my marriage. I had previously gone to school with their daughter Amanda, and became acquainted with my husband, Leander J. McCormick, at her wedding, May 8, 1845. I was one of her bridesmaids.

I was well acquainted with Mr. Robert McCormick's family; my father having also been well acquainted with him. I always understood him to have been the inventor of the reaper. I never heard any other name mentioned as having had anything to do with its invention.

I learned for the first time, shortly before the death of Mr. Robert McCormick, that he had given the invention to Cyrus. This I was surprised and chagrined at, as I had expected my husband to share with the family in the benefits growing out of it. I had frequent talks with Mrs. McCormick and the family, and she tried to reconcile me by saying that Cyrus had promised to "make all the family rich if he ever made anything out of it."

My husband told me, while we were living with the old people at that time, that he had made a valuable improvement in the machine, and that he had written Cyrus at Brockport, N. Y., and described it to him. Some twenty years afterwards I saw and read this letter with descriptions and drawings of the raker's seat, which he had written to Cyrus at Brockport, N. Y., before I was married in October, 1845. My husband found the letter among a lot of Cyrus' old papers which had been left scattered around at Walnut Grove, the old homestead. The letter referred to was afterwards burned in the Chicago fire.

August 10, 1846, immediately after Mr. Robert McCormick's death, we removed to the South River Farm, which my husband inherited from him, he having previously given it to Cyrus and taken it back on account of having had to pay Cyrus' losses in the smelting business, in which he and Cyrus were interested with a man named Black.

In witness whereof, I hereunto affix my name.

CHICAGO, August 1, 1885. HENRIETTA M. McCORMICK.

A BRIEF HISTORY

OF THE

Origin, Progress and Improvement of the McCormick Reaper.

AS STATED BY C. H. MCCORMICK IN HIS MEMORIAL TO CONGRESS ASKING FOR AN EXTENSION OF HIS PATENT OF JUNE 21, 1834.

"In the summer of 1831, my father (Robert McCormick, who patented a hemp-breaking machine, and who died on the 4th of July, 1846) constructed a machine for cutting grain upon a principle entirely different from mine,* and on which he had made experiments years before; and by his experiment in the harvest of 1831 he became satisfied that it would not answer a valuable purpose, notwithstanding it cut well in straight wheat. Very soon after my father had abandoned his machine, I first conceived the idea of cutting upon the principle of mine, viz: with a vibrating blade operated by a crank and the grain supported at the edge while cutting by means of fixed pieces of wood or iron projecting before it. (I think these pieces were of *iron* in 1831, but if not, iron was used for them certainly in the harvest of 1832.) A temporary experimental machine was immediately constructed, and the *cutting* partially tried with success, in cutting, without a *reel*, a little wheat left standing for the trial; whereupon, the machine was improved, and the reel which I had in the meantime discovered;† and soon afterwards (the same harvest) a very successful experiment was made with it in cutting oats in the field of Mr. John Steele, neighbor to my father. The machine at the time of this experiment contained all the *essential* parts that were embraced in the patent of June 21st, 1834. It had the *platform*, the *straight sickle* with a *vibrating action by a crank*, the *fingers*, or stationary supports to the cutting, at the edge of the blade, and projecting forward into the grain; (the double and counter action from the crank, as patented, was abandoned on being further tested), the *reel*, and the general arrangement by which the machine was (about) balanced upon *two wheels*, perhaps nine-tenths of the whole weight being thrown upon the one behind the draught, *thereby* attaching the

* See testimonial of W. S. McCormick, page 7.
† Discovered does not necessarily mean invented.

horses in *front and at one side* without the use of a separate two-wheeled cart, for the purpose of controlling the running of the machine, and at the same time causing the machine (upon its two wheels) to *accommodate itself* to the *irregularities* of the ground, which construction I claim."

He further states in the same memorial that he contracted with A. C. Brown, of Cincinnati, to build 100 Reapers for the harvest of 1847; "and I gave my brother (L. J. McCormick) a one-third part in that contract, to induce him to attend to the manufacture at that place, which he did," etc.

(Signed) "Very respectfully,
"Your obedient servant,
"C. H. McCORMICK."

WALNUT GROVE, Feb. 17, 1848.

The undersigned, mother and brothers of Cyrus H. McCormick, do hereby state, each for himself, (and herself) that during the harvest of 1831, said C. H. McCormick did have constructed and put into operation in cutting wheat on this farm, and oats on the farm of Mr. John Steele, (a near neighbor) a reaping machine for which a patent was granted to him on the 21st day of June, 1834. When used in cutting the oats at Mr. Steele's as aforesaid, this machine, we believe,* was essentially the same in principle as when patented as above; that is, it had a platform for receiving and carrying the grain until a sufficient quantity was collected for a sheaf, more or less. The cutting was done by a straight blade having a sickle or serated edge, placed at the front edge of the platform, and which received a vibratory action from a crank; and the grain was supported at the edge of the blade by fixed pieces of iron (or wood) placed about two or three inches apart, projecting before the edge and being above and below it so as to support the grain both at the upper and under side of the blade. At one side of, and attached to, the platform, a

* These memorials were probably prepared by C. H. McCormick himself. (See John Steele, Jr., page 47, and Eliza H. Steele's testimony, page 48.) It will be seen that they did not say that the machine did any work on the home farm, nor did they state that it was the same machine that cut the oats on Steele's farm, nor did they state that C. H. invented either of them, but simply that he had a machine constructed for the harvest of 1831, which he put in operation on the home farm (which might have been done without cutting a bushel of grain), and for which a patent was granted him in 1834. (See cut of this machine, page 20)

He then describes the machine which cut the oats, and the mother and brothers testify that they believed it was essentially the same as the one he put in operation and patented, which it may have been and still have been a very different machine, as he himself states in his memorial to Congress that his father built a reaper that year, and several others have also testified to the same effect, and that was probably the machine that cut the oats on Steele's farm. (See certificates for description of Robert McCormick's machine.)

frame was erected in which were placed one main driving wheel, about two feet in diameter, that run on the ground and supported that side of the machine, and other cog wheels, operated from the axle of the driving wheel, which communicated action to the crank, which (crank) was placed in a line with the blade and attached by a connecting wooden driver. From the frame that supported the wheels, a pair of shafts were extended forward, to which a horse was attached that pulled the machine, walking close to the edge of the grain; and the side of the platform extending into the grain was supported by a small wheel, the machine being about balanced on the two ground wheels, and steadied by the shafts attached to the horse. Above the blade was placed the reel, which was revolved by a band from a wheel on the axle of the driving wheel, which reel gathered the grain to the blade, and when cut, threw it straight on the platform.

The undersigned do further state that said C. H. McCormick did make great efforts from time to time to introduce said machines into general use, but found many difficulties to contend with, which caused much delay in accomplishing the same. And they furtner state that they have no interest in the patent of said reaping machine.

(Signed) WM. S. McCORMICK.
L. J. McCORMICK.
MARY McCORMICK.

Dr. N. M. Hitt states in a letter, produced by Cyrus H. McCormick at the same time as his memorial to Congress, that "during the harvest of 1831 whilst boarding at the house of Mr. John Steele, about one mile from the farm of Mr. Robert McCormick (deceased), father of Cyrus H., I had noticed that a machine had been constructed by the latter to cut wheat (or other small grain), and that a trial of it could be seen on said farm on that day. I accordingly, as well as Mr. and Mrs. Steele, went to Mr. McCormick's and did, on that day, witness probably one of the first experiments made by the operation of the Virginia Reaper. This experiment was made in cutting a piece of wheat without the reel. Otherwise the principles of the machine, though imperfect, were, I believe, the same as afterwards patented."

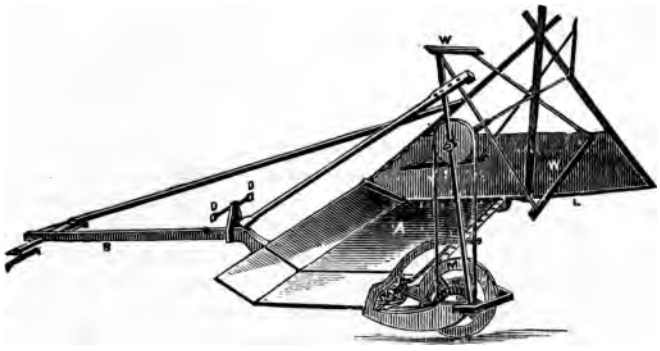
Messrs. John Steele, Jr., and E. Steele corroborate Dr. N. M. Hitt's statement, and that they also saw it operated with a reel in cutting oats on our farm in the summer of 1831.

John McCowan states in a communication which Cyrus H. McCormick presented to Congress, at the same time with his other memorial, under date of December 31, 1847, Rockbridge County, Virginia: "I reside some twelve or thirteen miles from the resi-

dence of William McCormick, son of Robert McCormick (deceased). During the harvest of 1831, Cyrus H., son of Robert McCormick (deceased), applied to me to make him a cutting blade for a reaping machine which he was then constructing to be operated by horse-power, and by his directions I did accordingly make one, about four feet long, with a straight, serrated or sickle edge, with a hole on one end of it for the purpose of being attached, as I was told and afterwards found out to be the case, to a crank which gave it a vibrating action. The machine was accordingly put in operation that harvest as I was informed, but did not see it. The present residence of Wm. S. McCormick was then the residence of his father and family." *

* In this, McGowan does not state that it was an invention of Cyrus H. McCormick's, but that he simply made the sickle for him And Robert McCormick was living at the time, and there was no reason why the father had not instructed the son to order the sickle to be made

McCORMICK'S REAPER, PATENTED IN 1834.



A. Platform. B. Tongue to which the horses were attached. D. Cross-bar to which the horses' hames were attached L Divider W. Reel T Cutter

(The above cut is taken from a remonstrance of the people of the State of New York against the renewal of C. H. McCormick's patent of June 21, 1834.)

TO THE CONGRESS OF THE UNITED STATES.

REMONSTRANCE

Of the Citizens of New York, against the renewal of Letters Patent granted to CYRUS H McCORMICK, *June 21, 1834, for improvements in the Reaping Machine.*

The subscribers, citizens of the State of New York, beg leave respectfully to represent:

That they have been informed that Cyrus H. McCormick has made application to your honorable body, for a special act of Congress, renewing the Letters Patent granted to him by the United States, on the 21st day of June, 1834, for improvements in Reaping Machines, claimed to have been invented by him.

The undersigned, being satisfied that neither justice to Mr. McCormick nor the public interest requires, that that patent should be renewed, beg leave, humbly but earnestly, to remonstrate against it; and they do so, from a full conviction,

First, That there is nothing described in that patent which is useful, which was not invented and used by others, prior to any invention or use of the same by Mr. McCormick, and,

Second, That if he was really the original and first inventor of any material and valuable part of what he claims, he has been amply rewarded during the existence of his patent.

That there are other men in our country who have contributed far more to the perfecting of the reaping machine, and rendering it what it has become, a necessary implement of agriculture, than Mr. McCormick has done, and who have received far less reward. And it is by no means certain that the success of Mr. McCormick's machine is not *entirely owing to his use of their inventions.*

That we do not make this remonstrance without sufficient grounds for doing so, we beg leave to submit for the careful consideration of your honorable body, a faithful account of the efforts not only of Mr. McCormick, but of those who preceded him in the invention and construction of reaping machines, and

First, We invite attention to the patent which is sought to be renewed. The claims of that patent are in the following words, viz: "My claim is for the arrangement of the several parts so as to con- "stitute the above described machine. And I particularly claim the "method of cutting by means of a vibrating blade, operated by a "crank, having the edge either smooth or with teeth, either with "stationary wires or pieces above and below, and projecting before

"it for the purpose of staying or supporting the grain whilst cutting, "or using a double crank and another blade or vibrating bar, as "above described, having projections before the blade or cutter, "on the upper side, both working in contrary directions, thereby "lessening the friction and liability to wear, by dividing the motion "necessary for one between the two, and improving the principle of "cutting by gathering and holding the grain to the cutter, the pro-"jections standing at a proper angle to said cutter; also the method of "securing them."

"I also claim the method of gathering and bringing the grain back "to the cutter, and delivering it on the apron or platform, by means "of a reel, as described above, movable to any height, required to "suit the grain, and the platform to hold the grain until a sufficient "quantity shall have been collected for a sheaf, more or less; like-"wise the mode of changing the machine for cutting either high or "low, as described above; also the method of dividing and keeping "separate the grain to be cut from that to be left standing, and the "method of attaching the tongue, when behind, to the breast of the "horse, to enable him to guide the machine with accuracy."

Judging from these claims, in the absence of a knowledge of prior inventions, we should be led to conclude that Mr. McCormick was the first inventor of a reaping machine. Here is claimed the arrangement of the several parts so as to constitute said machine; and particular claim is made to cutting grain by means of a vibrating blade operated by a crank, having the edge either smooth or with teeth; also to the reel for gathering the grain; and to the platform to hold the grain; and to the method of dividing the grain to be cut from that to be left standing, by means of a simple point projecting in front of the cutter for that purpose.

But it is important to inquire whether he was really the first and original inventor of the several parts of the reaping machine here claimed. To determine this, it becomes necessary to examine the history of reaper inventions and ascertain what had been invented prior to this alleged invention of Mr. McCormick.

The idea of cutting grain by machinery propelled by animal power, is of quite ancient origin. Machines for this purpose are said to have been known to the Romans. Both Pliny and Palladius mention such a machine used in the plains of Gaul, with which the latter says they could, with one ox, cut large fields of grain in a day.

This machine as described was very simple in its construction. It consisted of a box placed upon two small wheels like a cart, with the cutters fastened in the front end. The cutters are imperfectly described. It was designed only to take the heads of the grain, and was raised and lowered to suit the height of grain. Two short shafts were attached to the back end of the machine, to which an

ox was yoked with his head towards the machine, and pushed it in front of him. As the machine was pushed through the grain, the heads were cut off and fell into the box until it was filled, then it was emptied, and the process repeated.

The first attempts at reaping machines in modern times, so far as we have been enabled to learn, were made early in the present century, chiefly in Scotland. In Loudon's Encyclopedia of Agriculture, we have an account of the doings of six different individuals who gave their attention to this department of invention.

The first was a Mr. Boyce. "His machine was placed in a two wheel carriage, somewhat resembling a common cart, but the wheels were fixed upon the axle and the axle revolved along with them. A cog wheel within the carriage turned a smaller one at the upper end of an inclined axis, and at the lower end of this was a large wheel which gave a rapid motion to a pinion fixed upon a vertical axis in the front part of the carriage, the vertical spindle extended to within a few inches of the ground, and had there a number of scythes fixed upon it horizontally. The wheels rolling upon the ground as the machine was wheeled along gave the scythes a rapid rotary motion."

An improvement was made upon this machine by Plucknet, which consisted in substituting for the scythes a circular cutter with a sickle edge. A further improvement was made by Gladstone, of Castle Douglas, which consisted in instituting a circular table with strong wooden teeth notched below all around, which was fixed immediately over the cutter, and parallel to it. The use of these teeth was to collect the grain and retain it until it was cut. The grain when cut, was received upon this table, and when a sufficient quantity was collected, taken off by a rake or sweeper and laid upon the ground beneath the machine in separate parcels.

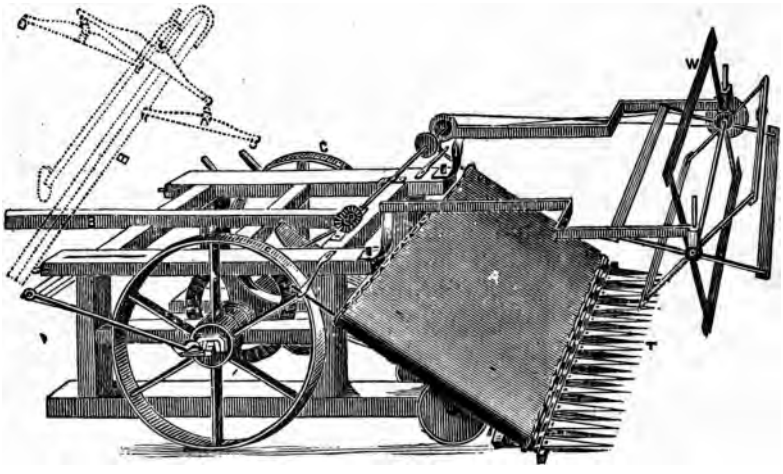
"Salmon of Waburn, made the next attempt." He constructed his machine upon a totally different principle; it cut the grain by means of shears, and it was provided with an apparatus for laying the grain in parcels as it was cut.

The next machine was constructed by Smith, of the Deanston Cotton Works, Perthshire. Smith's machine, in its general principle and arrangements resembled Boyce's, and Plucknet's and Gladstone's. The team was attached behind the machine and labored with their heads towards it. The cutter was circular and revolved horizontally; and over it was a drum that revolved with it, that carried the grain as it was cut to the side of the machine and threw it off in regular rows. The first trial of this machine was in 1811. Mr. Smith continued his experiments through 1812, 1813, 1814, and 1815, and it is said the last year with much success.

The next and more important inventor in this department, was

the Rev. Patrick Bell, of Scotland. A full and minute description of this machine, with plates nicely lettered, clearly illustrating it, is contained in Loudon's Encyclopedia of Agriculture, pages 422 to 427 inclusive; which description was published in that work as early as 1831, and has been extant in this country since that time.

BELL'S REAPING MACHING PUT IN OPERATION IN 1828.



A. Apron which receives the grain. B Tongue to which the horses were attached W Reel T Cutter

The Reaping machines in use at the present day bear considerable resemblance to this machine. The frame work is suspended on two wheels, of three and a half feet in diameter, the axle of which revolves with the wheels. The front end of the machine rests upon two small wheels, placed one on each side, near the cutters. It is provided with two other small wheels under the front part of the machine on a short axle which is attached to the machine at its centre, midway between the wheels, by means of a bolt on which it turns, that it may be shifted angling either way to the machine, by a lever controlled by the operator for the purpose of guiding and turning the machine. When the machine is to be turned around, the front end is raised and rests upon these wheels. The team is attached to the rear part of the machine, with their heads towards it. The grain is gathered up to the cutters by means of a reel, made adjustable back and forth, or raised and lowered to suit the height of the grain. The cutters are shears, the under blades of which are bolted fast to an iron bar that extends across the front end of

the machine. The upper blades vibrate over them, turning on the bolts that bolt them to the iron bar. These upper blades extend back from the bolts, or fulcrums, and are connected by a vibrating bar which is attached to a crank put in motion by gearing connecting it with the large driving wheels. The grain when cut was thrown back by the reel upon a revolving apron by which it was carried and dropped off at the side of the machine in a continuous swath. Public trials of this machine were had in 1828 and 1829. In 1828 it was tried at Powrie, in the county of Forfar, before between forty and fifty landed proprietors and practical agriculturalists, who signed a declaration, stating that the machine cut down a breadth of five feet at once, was moved by one horse, and attended by from six to eight persons to tie up the grain, and that the field was reapt by this force at the rate of an imperial acre per hour. In September, 1829, the machine was tried at Monkic, in Forfarshire, in the presence of a still greater number of persons, who attest that it cut in half an hour nearly half an English acre of a very heavy crop of oats, which were lodged, thrown about by the wind, and exceedingly difficult to harvest. It was tried in a number of other places in Forfarshire, Perthshire and Fifeshire, and the general conviction appears to be, says the author, "that it will soon come into as general use among farmers as the threshing machine."

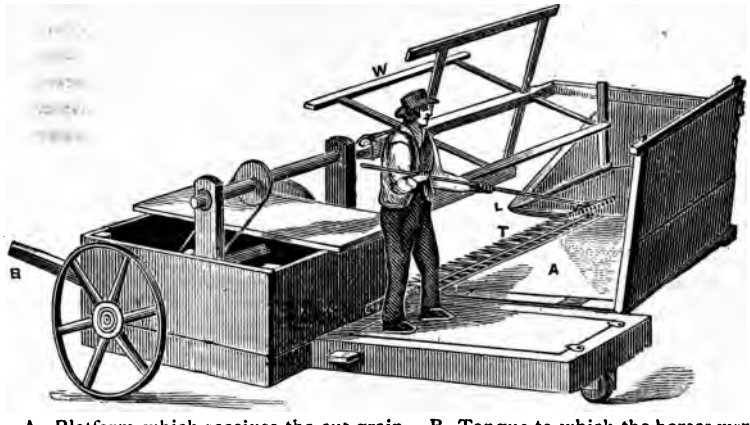
Soon after the trial and notice of Bell's machine, several individuals in different parts of this country gave attention, nearly simultaneously, to getting up reaping machines.

Thomas D. Burrall, Esq., of Geneva, N. Y., constructed one in 1832 or 1833, professedly after Bell's description, with slight modifications.

William and Thomas Schneby, of the State of Maryland, took out a patent for improvements in reaping machines, the 22d of August, 1833. Their machine had a reel for gathering the grain, constructed however, somewhat unlike Bell's. Their cutters were essentially the same as Bell's, except as to the manner of communicating motion to them. The grain when cut, was thrown back by the reel upon a revolving apron, by which it was carried and dropped at the side of the machine in grips or gavels. On the trial of this machine the revolving apron was found to be impracticable or failed to perform its office, and the grain was raked off by a man riding upon the machine. These men, for want of means, were obliged to discontinue their experiments, though their machine was used with very good success for two or three years.

Abram Randall, of Oneida county, N. Y., was among the early inventors in this department, in this country. He put his machine into operation in the harvest of 1833.

RANDALL S REAPER, AS USED IN 1833.



A. Platform which receives the cut grain. B. Tongue to which the horses were attached. L. Divider. T. Cutters. W. Reel.

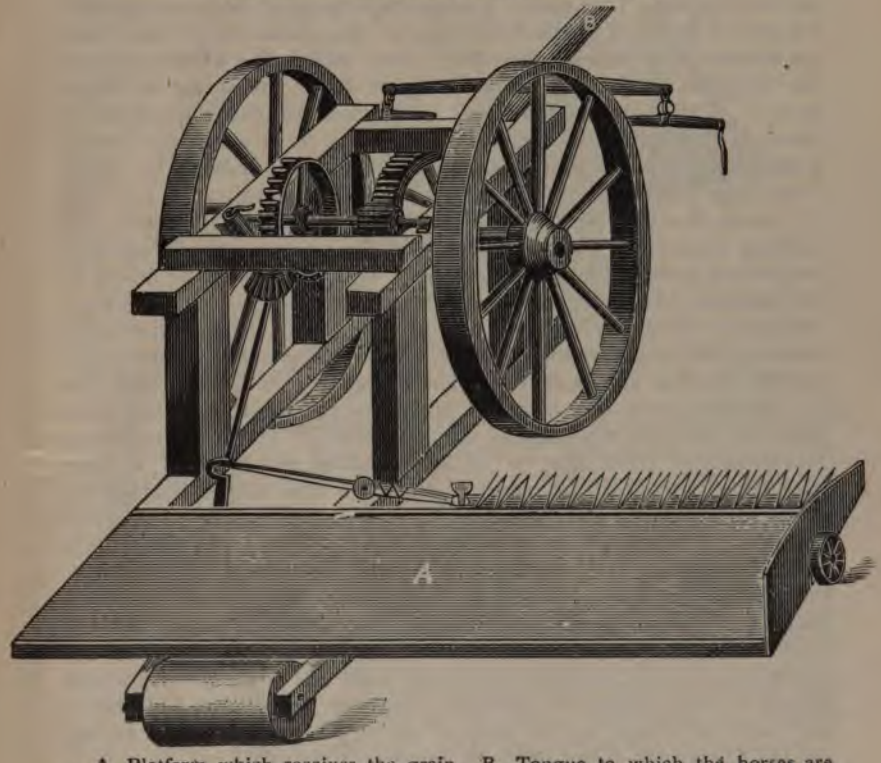
This machine exhibited great ingenuity and judgment in its construction. The frame that contained the gearing was suspended between two wheels of two and a half feet diameter, whose axle revolved and from which motion was communicated to the reel and cutters. The platform for receiving the grain was attached to the rear end of this frame, and extended out one side a distance equal to the width of the swath to be cut by the machine. The cutters which were similar to Bell's, were attached to the front edge of the platform, which was just in rear of the wheels. The team was attached in front of the machine, and traveled forward of the driving wheels. The grain was gathered up to the cutters, and when cut thrown back upon the platform by means of a reel placed (the centre of it) a little in front of the cutters, and made adjustable to any height desired, which was put in motion by a belt connecting it with the axle of the main driving wheel, in the same manner that the reels in all the various machines are moved. For the purpose of separating the grain to be cut from that to be left standing, a point on the side of the machine that run in the grain was made to project in front of the cutter, which projection was broad at the cutters, leaning the grain inwards and outwards. Upon this projection was placed a broad board edgewise, up and down, sloping from back of the cutters down to the point in front, nearly up to which came the ends of the arms of the reel as they passed over the cutters. As at first constructed, the grain was raked from this machine by a man, who rode upon the machine immediately in rear

of the driving wheels at the side of the cutters, and nearly in range with them, with his back towards the team, and raked the grain off at the side of the platform. Mr. Randall afterwards made some experiments with a self-raker.

This appears to have been the most practical machine of which we have spoken, and was successful and satisfactory in its operations.

Among the early reaper inventors of this country, Mr. Obed Hussey, now of Baltimore, stood for many years deservedly the most prominent, and he has doubtless by his genius and indefatigable exertions (although in a modest way) contributed more to the advancement of this invention than any other man. He first tested his machine in 1833, and took out a patent for it the 31st of December, of that year.

HUSSEY'S REAPER, PATENTED IN 1833.



A. Platform which receives the grain. B. Tongue to which the horses are attached

He first constructed his machine with a reel to gather the grain up to the cutters, and throw it upon the platform; but on trial, *with his cutter*, he thought it unnecessary and only an incumbrance, and, therefore, threw it aside and has never used it since. The main frame-work containing the gearing was suspended on two wheels about three feet four inches in diameter. The platform was attached to the rear of this frame, and extended out one side of it, say six feet. The team was attached to the front end of the frame, and traveled at the side of the standing grain, as in Randall's machine. The cutting apparatus was pretty much the same as now used in Hussey's machine. The knife is constructed of steel plates, riveted to a flat bar of iron. These plates are three inches broad at the end where they are riveted to the bar, and four and a half inches long, projecting in front, and tapering nearly to a point, forming what is described as a saw with very coarse teeth, which are sharp on both edges. This cutter is supported on what he terms guards, which are attached to the front edge of the platform or cutter-bar (as termed by Hussey), one every three inches the whole width of the machine, projecting horizontally in front about six or eight inches. These guards have long slots through them horizontally through which the cutter vibrates, and thus form a support for the grain whilst it is cut, and protect the cutter from liability to injury from large stones and other obstructions. The cutter is attached by means of a pitman rod to a crank, which is put in motion by gearing connecting with one or both of the ground wheels as may be desired, according to circumstances, which gives to the cutter as the machine advances, a quick vibrating motion; and each point of the cutter vibrates from the centre of one guard, through the space between, to the centre of the next, thus cutting equally both ways. As the machine advances, the grain is readily cut, and the butts are carried along with the machine which causes the tops to fall back upon the platform without the aid of the reel. The grain to be cut was separated from that to be left standing by means of a point projecting in front of the cutter, in the form of a wedge, bearing the grain both inwards and outwards, with a board set edgewise upon it, sloping downwards, to a point in front. The grain was raked from the machine by a man riding upon it, in rear of the frame, at the side of the cutter, nearly in range with the guards, with his back towards the team, sometimes at the side and sometimes behind the platform. Soon after this date Mr. Hussey changed the construction of his machine somewhat, used one large ground wheel instead of two, placed the platform alongside the frame, and placed his raker on a seat by the side of the large ground wheel, facing the team, and raked the grain off in rear of the platform.

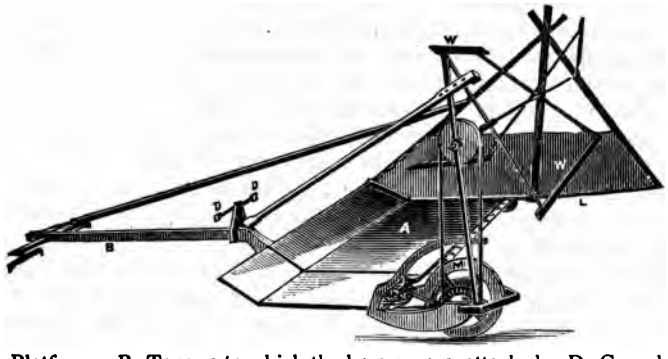
This was for many years doubtless the most practical reaping

machine known, and, with the improvements that have been made upon it, from time to time, it is now preferred to any other in many wheat growing sections of the country.

The cases here cited show the progress that had been made in this invention, so far as we have knowledge of it, up to the time when we first hear of Cyrus H. McCormick in connection with it.

Mr. McCormick's first patent bears date the 21st day of June, 1834; the specification is dated the 19th, two days previous. Now, by comparing his machine, as he presented it to the patent office at that time, with the inventions then publicly known and in use, as we have shown, we are enabled to determine how much he contributed to the progress of this invention.

McCORMICK'S REAPER, PATENTED IN 1834.



A. Platform. B. Tongue to which the horses were attached D Cross-bar to which the horses' hames were attached. L. Divider. W. Reel T Cutter

This machine was supported on two wheels, one of about two feet diameter at the right side, a little in front of the cutter; the other fifteen inches in diameter, placed on the left side near the cutter. The team was attached to the rear part of the machine, and worked with their heads towards it, as in Bell's machine and the other foreign inventions. The greater part of the weight being in rear of the wheels, the rear part was borne by the horses by means of a pole passing across their backs and resting on pad saddles; from this pole a chain passed to the tongue below, and suspended it to the desired height. The platform is described as being about six feet broad. Bell's machine is described as just six feet broad. A reel was attached for gathering the grain, constructed and operated similarly to Bell's. But instead of this reel being supported by bearings extending from the rear part of the machine,

horizontally, as in Bell's machine, a reel post was placed each side of the machine, perpendicularly, in front of the cutter for that purpose. The cutter was a long steel blade extending the width of the platform, with a straight sickle edge, with the sickle teeth angling towards the right side of the machine. Above this sickle was placed another blade, and instead of the fine sickle teeth for cutting the grain, it had teeth an inch and a half long, and the same distance apart, which angled towards the left side of the machine, the opposite way from the angle of the sickle teeth. These long teeth were for holding the grain whilst it was cut. These blades were attached to a double crank on the same shaft opposite to each other, which gave the blades, when vibrating, an opposite motion. The sickle cut only when it moved to the right. This cutting apparatus was similar in principle to Plucknett's (page 3), with the teeth added by Gladstone, except *that* was circular, and revolved and cut *all the time; this* is straight and vibrates and cuts only *half the time.* The grain to be cut was separated from that to be left standing, by a projection on the left side of the machine (the side that run in the grain), which extends in front of the cutter some six feet, if we get a correct idea from the specification. The grain, when cut, fell upon the platform, and when a sufficient quantity had accumulated for a sheaf, was raked off at the side of the platform by a man who walked at the side of the machine. Motion was communicated to the crank that gave motion to the sickle by gearing that connected it with the large ground wheel.

We will not stop to enquire how far this machine was original with Mr. McCormick, and how far it was taken from prior inventions. But he is presumed to have had knowledge of what had been then published to the world at the time when this machine was got up; the country from which Mr. McCormick descended; the resemblance in the prominent features of the machines, and the similarity in the language in which both are described, are all circumstances that strongly favor the supposition that he at least had knowledge of Bell's machine, which was in use, as we have shown, in 1828. But we *would* ask, was this a *practical* reaping machine? Was it *practical* to run this machine on ordinary fields of grain, resting on two small wheels in front, one two feet, the other fifteen inches in diameter, the rear end resting on a pole across the horses' backs, and the horses pushing the machine in front of them? Was it *practical* to cut the grain with a vibrating blade cutting only one way, thereby losing half the motion? It might succeed where the grain was very dry and ripe, and free from grass; but was it practicable under ordinary circumstances? Or was it practicable to use a point projecting *six feet* in front of the cutter with a brace raising from the point backwards, at an angle of sixty degrees, to separate

the grain? Would it separate the grain where it required any separating? These questions are readily answered in the negative by those who have had practical experience in the use of reaping machines, and they are very distinctly answered in the sequel. And in any view we can take of it, was Mr. McCormick entitled to hold under patent from the Government, the exclusive right of making, vending and using the several parts of the reaping machine claimed in his patent of 1834? Cutting grain by means of a vibrating blade operated by a crank, having the edge either smooth or with teeth; the reel for gathering the grain; the platform for holding the grain, and a simple point projecting in front of the cutter for separating the grain to be cut from that to be left standing. Parts, without using some of which, a practical reaper cannot be made, and having held them by patent fourteen years, is he entitled to hold them for another term of years by special act of Congress?

The following is a copy of the report made in 1848, by Professor Page, then one of the examiners in the patent office, and to whom, as we understand, was referred the application of Mr. McCormick to the commissioner of patents for an extension of his patent of 1834, which he now asks to have extended by Congress.

No one will be surprised that after the making of that report by the examiner, the application of Mr. McCormick for an extension was denied by the commissioner of patents. Although it is obvious from what we have shown above that the report contained by no means all, or even the strongest evidence which might have been furnished, against the originality of Mr. McCormick's invention. The probability doubtless is that the examiner having discovered enough in the line of prior inventions to dispose of Mr. McCormick's claims, did not consider it necessary to pursue the inquiry further.

PATENT OFFICE, January 22, 1848.

SIR: In compliance with your requisition, I have examined the patent of Cyrus H. McCormick, dated 31st June, 1834, and found that the principal features embraced in said patent, viz., the cutting-knife and mode of operating it, the fingers to guide the grain and the revolving rack for gathering the grain, were not new at the time of granting said letters patent.

The knife-fingers and general arrangements and operation of the cutting apparatus, are found in the reaping machine of O. Hussey, patented 31st December, 1833.

The revolving rack presents novelty chiefly in form, as its operation is similar to the revolving frame of James Ten Eyck, patented 2d November, 1825.

Respectfully submitted. CHAS. G. PAGE, *Examiner.*

Hon. Edmund Burke, Com'r of Patents.

In view of the facts set forth, some will inquire, why did the patent office grant such claims under these circumstances? The answer to which is, that prior to 1836 the patent office made no examination as to the novelty of inventions claimed. Applicants made oath to their inventions, and a patent issued as a matter of course. But it is a little remarkable that Mr. McCormick should have made such claims, and still more remarkable that, after eighteen years have elapsed, he should petition Congress to renew that patent.

The inquiry is worthy of consideration, who was the first in this country to construct and introduce into practical and general use, a reaping machine?

Mr. Hussey, as we have said, made the first trial of his machine in 1833. He manufactured four machines for the harvest of 1834, and twelve or fourteen for the harvest of 1835, and he had, at this time, introduced them into five of the wheat growing states, and has built more or less machines every year since. He established the business in Baltimore in 1839, built sixteen machines that year, and has ever since continued to do a large business in the manufacture and sale of his machines.

These early operations of Mr. Hussey, when we consider the prejudices then existing against reaping machines, and the small portion of the grain growing regions of the country that was then adapted to the use of them, speak well for the success of his machine, and for his exertions in introducing it.

Of Mr. McCormick's early operations we are not so particularly informed. In an article published by him, under date March 1, 1845, speaking of his reaper operations, he says "he did not, until last harvest, go out of his native state (Virginia) with his machine." In the same document he published a certificate of Abraham Smith, dated Egypt, Rockingham county, October 31, 1844, in which Mr. Smith states: "I believe I have the first reaping machine disposed of by Mr. Cyrus H. McCormick. *I have used it every harvest since 1840.*" Which statements together show pretty clearly that his first sales of machines were made *not earlier than 1840*, leaving Mr. Hussey at least six years in advance of him in introducing his machine into use. And during this time Hussey's machine had made such an impression upon the public mind that there began to be a demand for reaping machines.

Then we begin to hear again of McCormick's reaper. We hear of one in use in 1840, and of two more in 1842. There may have been more of them in use in these years. We have no knowledge of any more.

To fully determine the merits of this case it becomes necessary to trace the origin and progress of improvements in the reaping

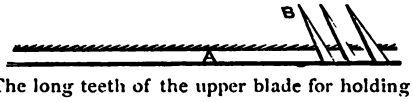
machine so far as they have a bearing upon it, and ascertain how much Mr. McCormick has invented since 1834.

At the time the early efforts in this country, to which we have referred, were being made, Messrs. Moore and Haskell, of Michigan, conceived the idea of constructing a machine, not only for cutting grain, but for *cutting, thrashing, winnowing and sacking it* at one operation. This was a magnificent idea, and its conception at that particular time affords an interesting illustration of the progressive nature of inventions.

Their machine was necessarily complicated, and required years of experiments to perfect it, but has finally been made, by the perseverance of these men, one of the most perfectly adapted mechanical arrangement, to the purpose for what it is designed, to be found in the whole range of mechanics, capable of cutting, thrashing, winnowing and sacking three acres of wheat per hour. These men constructed their first machine in 1834, and took out a patent in June, 1836.

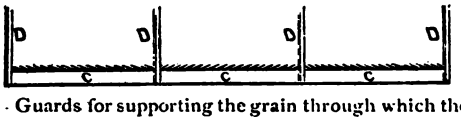
This machine is noticed here only for the purpose of showing the improvements made by these men in the cutting apparatus. They cut with a sickle edge, but differing from Mr. McCormick's in the following particulars: They reversed the angle of their sickle teeth in alternate sections of an inch and a half or two inches each, the whole length of the blade, which caused it to cut equally both ways, whereas it will be remembered Mr. McCormick's sickle teeth all inclined in the same direction and cut only one way. This difference is shown in the following diagrams:

MCCORMICK'S SICKLE.



A. Sickle. B. The long teeth of the upper blade for holding the grain.

MOORE AND HASKELL'S SICKLE.

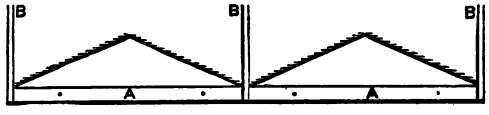


C. Sickle. D. Guards for supporting the grain through which the sickle vibrates.

The advantage of this reversed angle of the teeth must be apparent to all when once suggested. Only half the power is required to move the sickle when cutting that is required to move it when the teeth all incline in the same direction. It cuts twice as often,

consequently has only half as much to cut each time. Indeed, it is believed that without the reversed angle the use of the sickle in these machines is impracticable. Moore and Haskell used stationary guards for supporting the sickle, similar in principle to those used by Hussey, which supported the grain whilst it was cut.

After using this form of sickle with a straight edge a short time, and finding it defective, they invented what is termed the scolloped sickle, with the reversed angle, formed thus:

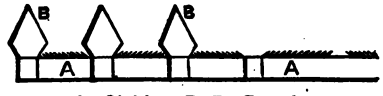


A. Sickle. B. B. B. Guards for supporting the grain, and protecting the sickle.

This sickle was constructed of steel plates about four inches long, riveted to a bar of iron. This is doubtless the best arranged cutter for reaping machines now known. Many persons, however, prefer Hussey's.

Moore and Haskell built two of their Harvesters at Rochester, N. Y., in 1836, in which they put the straight sickle with the reversed angle of the teeth, which, however, soon afterwards gave place to the scolloped sickle; but of the exact date of this change we are not informed.

Mr. McCormick obtained a patent for *improvements* in his reaping machine on the 31st of January, 1845. By a careful examination of the improvements claimed in this patent of 1845, in connection with the foregoing facts, we are enabled to ascertain how much he then invented. He made the following alterations in his machine of 1834. The team was taken from behind the machine, and placed in front, the same as Schnebly, Hussey, Randall, and Moore and Haskell had placed theirs from the first. He threw aside the old sickle with the teeth all inclined in one direction, and adopted the reversed angle of teeth *invented by Moore and Haskell*, and put in use by them, certainly as early as 1836. He dispensed with the upper vibrating blade with the long teeth for holding the grain, and substituted in its stead stationary guards, or fingers (as they are termed by Mr. McCormick). These guards were shaped somewhat differently from Hussey's, or Moore and Haskell's. They passed over the sickle instead of the sickle passing through slots in them, and were broad in front and angled back towards the sickle, forming on both sides of the fingers an acute angle with its edge, as in the diagram:



A. Sickle. B. B. Guards.

With this form of guard he retained on both sides of it the same angle to the edge of the sickle that he had on the long teeth in the upper blade in 1834, on the side against which the grain was cut, which become necessary, as the sickle now cuts both ways. The acute angle is important where the straight sickle is used, but of no account with the scalloped sickle. He dispensed with the plates bolted to the under side of the finger piece, and to the sickle, for supporting the sickle, and let the sickle slide on a bar of iron extending the whole length of it, which bar or knife case was supported by straps of iron passing from it to the finger piece, leaving a narrow space between the knife case and finger piece, and in this space these supports were bent downwards. He put upon the inside of the point that extends in front of the sickle, and divides the grain to be cut from that to be left standing, an iron rod, which was attached near the point by two bolts, one of which passed through a slot in the rod. Being thus attached, the back end of it could be raised and lowered. From these bolts this rod rose towards the reel at an angle of about thirty degrees, until it came in contact with it, and was then bent to fit the circle described by the reel, and extended back to the sickle. Being thus arranged, it could be raised and lowered as it was required to raise or lower the reel, and thus be always kept in contact with the arms of the reel, the object of which was to divide the grain.

He shifted the foot of the reel post on the left side of the machine, which was in front of the sickle, to about nine inches back of it, curved it outwards and leaned it forwards, and extended it so high that it could be braced from the top across in front of the reel, to the tongue between the horses.

On these improvements he has five claims in the patent of 1845.

The first claim is on the bend downwards in the bearers that support the knife-case.

Second. The reversed angle of the sickle teeth; an improvement that Moore and Haskell put into use certainly as early as nine years before that time.

Third. The form of the guards or fingers in front of the sickle, forming an acute angle with the edge.

The fourth is a combination of the dividing iron and a bow on the outside of the divider, for separating the wheat.

The fifth is setting the lower end of the reel post behind the cut-

ter, curving it out and leaning it forward, to favor the cutting and enabling him to brace it across to the tongue.

Mr. McCormick is the only man known to us who ever placed a reel-post in *front of the cutter*, on the side of the machine that runs in the grain. Bell's machine had no reel-posts. The reel was supported by bearers extending horizontally from the frame in rear of the revolving apron on which the grain fell, and these bearers had no supports in front or at the side of the apron, thus leaving the whole space from the front of the divider to the rear of the apron, free from any obstruction to cutting the grain, or to throwing it off at either side. Schnebly, and Randall, and Moore and Haskell, all placed their reel-posts in rear of the cutters.

If a patent had been asked for on the original machine, for placing the reel-post on the side of the standing grain, in front of the sickle, the application, so far as originality was concerned, would certainly have been entitled to success; and probably no new inventor would have attempted to improve upon the machine *in that direction.*

This machine of McCormick's was still constructed for a man to walk at the side and rake off the grain. This idea of *walking* at the side of the machine to rake off the grain, appears to have been exclusively Mr. McCormick's, he being the only man known to us, who ever constructed a machine to be used in that manner.

His next claim to invention is for putting a seat for the raker upon this machine, in a certain location, for which he obtained a patent on the 23d of October, 1847.

In this patent of 1847, he claims, besides the seat for the raker, the changing the position of the gearing from the rear of the driving wheel to the front of it; but he soon abandoned this arrangement and placed the gearing back again in rear of the driving wheel, which leaves the seat as the only material thing in this patent. But we here insert both claims, which are in the following words, to wit:

"What I *claim* as my invention and desire to secure by letters patent, bearing date the 21st of June, 1834, and the 31st of January, 1845, is placing the gearing and crank forward of the driving wheel for protection from dirt, etc., and thus carrying the driving wheel further back than heretofore, and sufficiently so to balance the rear part of the frame and the raker thereon, when this position of the parts is combined with the sickle, back of the axis of motion of the driving wheel, by means of the vibrating lever, substantially as herein described. And I *also* claim as my invention, the arrangement of the seat of the raker over the end of the finger piece, which projects beyond the range of fingers, and just back of the driving wheel, *as described*, in combination with, and placed at the end of the reel, whereby the raker can sit with his back towards the team, and thus have free access to the cut grain laid on the platform and

back of the reel, and rake it from thence to the ground, by a natural sweep of his body, and lay it in a range at right angles with the swath, as described, thereby avoiding unevenness and scattering in the discharge of the wheat, as well as accomplishing the same with a great saving of labor."

The inventions claimed in these patents of 1845 and 1847, may be briefly summed up thus: Bending the bearers of the knife case downwards; adopting Moore and Haskell's reversed angled sickle; so forming his guards, when he adopted the reversed angle and consequently cut both ways, that they presented the same angle to the line of the edge of the sickle, that they did on the side against which the grain was cut in the old machine; putting on the divider iron; moving the reel post back; changing the gearing to the front of the driving wheel; and putting on a raker's seat. And in making these improvements, as common-place as they all are, he had the benefit of the suggestions of the mechanics who built the machines, and the farmers who used them.

In January, 1851, Mr. McCormick gave public notice that he had since the harvest of 1850, made an important improvement in his reaper. Which improvement consisted in substituting Moore and Haskell's scolloped sickle in place of the straight one. This was indeed an important improvement to him, for as the scolloped sickle had been brought into competition with the straight one, the latter fast sank into disrepute. And furthermore, this improvement was adopted at an important time for him, just as he was preparing for the world's fair.

We have noticed all of Mr. McCormick's pretentions to invention, so far as they have come to our knowledge, and without stopping to comment upon them, we submit in connection with the facts here set forth, the question of his merit as an inventor, to the decision of the reader.

Strip the machine of those things which have been confessedly the invention of other men, and borrowed (to use no harsher term) from them, and what is left as the result of his inventive genius, would hardly be worth an application to Congress to perpetuate.

Take away the reel, which was invented by Bell, and was in use in this country, both by Randall and Schnebly before McCormick commenced; take away the position of the horses in front of the machine, invented by Randall, Schnebly and Hussey, nearly simultaneously, and place them behind the machine to push it, as used by McCormick, in further imitation of Bell; take away the reversed angle of the sickle which was included in McCormick's patent of 1845, after it had been invented and used ten years by Moore & Haskell in New York and Michigan; and take away the still later

and more important improvement, of the scalloped edged sickle, which he has since *borrowed* from the same men, and leave him *his sickle*, cutting during only half its motion; and take away the seat, which was borrowed from Hussey and Randall, and place his raker on the ground by the side of the machine, and the reader can then judge what there is left original and valuable in McCormick's machine, as the result of his invention.

In that condition the machine might with propriety claim kindred with the daw when stripped of his borrowed plumage; and although it would doubtless still have its triumphs at the World's Fair, they would not have been of the kind which receive medals as their reward.

There are some steps in the progress of these inventions to which we would call especial attention.

The change of the position of the horses from the rear to the front of the machine, is believed to be the chief improvement upon previous efforts, which has rendered the reaping machine practically useful. A little reflection will satisfy any person, that, although grain might be very well cut with a machine pushed forward by horses harnessed behind it, the difficulties attending its management would effectually prevent its introduction, in that form, into general use. It is the change in this respect, far more than any other, which has given the American reaping machines their success. There is no other point which might not be supplied from the foreign machines, but this could not.

For this we are indebted to Mr. McCormick. He, however, adopted it soon after its invention. This change may be considered a very simple one, but it had not occurred to the foreign inventors, nor to Mr. McCormick.

The method of cutting by knives, operating somewhat upon the principle of shears, had been invented by Bell, and was used by Randall and Schnebly, prior to McCormick's experiments, and is still used by Hussey with excellent success.

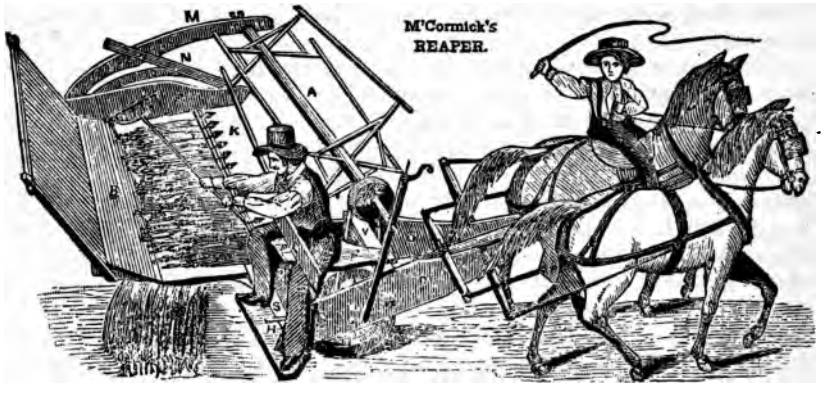
The use of the *straight* blade, having an edge like that of a sickle, with the teeth inclined all in one direction, seems to have been original with Mr. McCormick. But as that would cut during the motion of the blade in one direction only, it could not operate successfully, except in ripe, dry grain, free from grass or weeds. With care and attention it could be used, but its defects prevented any general use of the machine for nearly ten years after the patent was obtained. It can hardly be doubted that if Mr. McCormick had not adopted, as he did in 1845, the reversed angle of the sickle, as invented by Moore and Haskell, his machine would never have been introduced into general use, and now, since the invention of the scalloped edged sickle by the same men, it would be entirely

abandoned, were it not for the use, by McCormick, of that invention also.

The seat, which constitutes the substance of his patent of 1847, was the only point of controversy in the suit before alluded to against Seymour & Morgan, tried at Albany in October last.

The seat was first used by McCormick in 1845 (though perhaps tried the fall previous.) For more than ten years after his first patent, the raker walked by the side of his machine, to rake off the grain. It was proved on that trial, that during the harvest of 1844, McCormick and Hussey,, with their respective machines, operated one day side by side, in the same wheat field in Virginia, the raker upon Hussey's machine riding upon the machine to perform the raking, whilst McCormick's raker walked by the side of his machine. The next season (1845) McCormick placed a similar seat for the raker upon his machine, and for placing it there, received letters patent from the United States as the reward of his *invention.*

It will be seen that the McCormick seat was quite different from the seat as patented by Hussey (see cut attached), which was more properly a reeler's seat than a raker's seat, as his rake performed more the function of the reel in the McCormick machine. In Hussey's machine the man reached forward into the standing grain with his rake and carried it back to and against the cutters, and left the grain deposited on the ground directly in the rear of the machine and in the way of the horses on their next round (rear delivery). The McCormick rake was very different, as it carried the grain across the machine and left it deposited on the ground at its side and out of the way of the horses on their next round (side delivery). Hussey, therefore, may well claim that with his machine he did not need a reel.



It was not claimed upon the trial, on the part of McCormick, that the seat was his invention, or the placing it upon the reaping machine; but that he was the first to use a seat upon a machine having a reel; (Hussey uses no reel), and upon this ground his patent was sustained, and he obtained a verdict of upwards of $17,000 for a single year's infringement of his patent for that *great invention*.

It was not then known to the defendants that Mr. Randall had made the same invention, of both seat and reel, and had used them together successfully for several years, more than ten years before Mr. McCormick had attempted to put a seat upon his machine.

We have no right to object, and do not object to Mr. McCormick's using other men's inventions, to any extent which may suit his convenience (so long as the real inventors remain quiet), nor to his reaping any harvest, however rich, of fame and money, as a reward for the exercise of his genius in that direction. But when the extraordinary power of Congress is invoked to perpetuate *for his benefit*, the monopoly of such inventions, we regard it as both a right and a duty to protest against it, and to call to the subject, so far as we are able, the public attention.

That the main features of the patent of 1834 (which is now sought to be renewed), indeed all the things embraced in that patent, which are of any value, were not invented by Mr. McCormick, or if invented by him, that he was not the first inventor, we think sufficiently appears from the report of Professor Page, which we have here given; but if any doubts remain after reading that report, they will be removed by a careful examination of the inventions to which reference has been here made.

Much has been said in the public prints of this country in relation to the success of McCormick's reaper in England. Whether the

then pending suit to which we have alluded, and the contemplated application to Congress for a renewal of the patent, had any tendency to inflate, beyond their natural dimensions, the newspaper articles on the subject, we have no means of knowing. But in order that the just extent of that much lauded triumph may be understood and appreciated, we append hereto an account of the last trial between McCormick's and Hussey's reapers in England (which were the only machines tried, when McCormick's great victory is supposed to have been won), together with the verdict of the jury selected to decide upon the merits of the two machines. The account is taken from the London Farmer's Magazine for November, 1851.

"The decision of the merits of the two American reaping machines, brought into competition at the Middlesborough meeting of the Cleveland Agricultural Society, terminated exactly as we expected. We stated that, at the first day's trial, the only decision which could be made, was, that the one showed it could do work which the other would not. A more favorable day was selected for a second trial, especially on ridge and furrow, and in lodged corn; and we stated we were much mistaken if the decision did not turn out to be in favor of Hussey's machine, and not to the one which obtained the medal at the Great Exhibition. Our opinions are shown by the event to be correct. The jury appointed consisted of good country names of practical men:

"Rev. William Fitzwilliam Wharton, rector of Birmingham, Richmond, foreman; John Thomas Wharton, Esq., Skelton Castle, Guisborough; Mr. John Parrington, Brancepeth, Durham; Mr. William Morley, Dishforth, Thirsk; Mr. John Mason Hopper, Newham Grange, Middlesborough; Mr. Joseph Parrington, Crossbeck House, Middlesborough; Mr. George Reade, Hutton Low Cross, Guisborough; Mr. Robert Fawcitt, Ormesby, Middlesborough; Mr. William Hill, Stainton, Middlesborough; Mr. Joseph Coulson, Sexhow, Stokesley; Mr. Thomas Parrington, Marton, Middlesborough; Mr. Joseph Harrison, Ormesby, Middlesborough.

"The following were the instructions of the jury, and the points to which their attention was to be directed:

"'The machines to be tried on wheat and barley, in such order and for such lengths of time as the jury may direct.

"'The jury to have full power to use any means they may deem advisable, in order to put the machines to the severest trials.

"'The jury, in deciding on the merits of the two machines, to take into their consideration—

"'1. Which of the two cuts corn in the best manner?

"'2. Which of the two causes the least waste?

"'3. Which of the two does the most work in a given time?

"'4. Which of the two leaves the cut corn in the best order for gathering and binding?

"'5. Which of the two is best adapted for ridge and furrow?

"'6. Which of the two is the least liable to get out of repair?

"'7. Which of the two, at first cost, is less price?

"'8. Which of the two requires the least amount of horse labor?

"'9. Which of the two requires the least amount of manual labor?

"'And whichever of the two machines so tried and tested has in it the greater number of the above qualifications, according to the opinions of a majority of the jury, is to be pronounced the best instrument.

"'Middlesborough, Sept. 1851.'

"The trial came off as we have before described, and the following was the award of the jury:

"'The jury regret exceedingly the most unfavorable state of the weather on the days of trial (a perfect hurricane raging the whole of the first day), and their consequent inability to make so full and and satisfactory a trial as they could have wished.

"'Tne machines were tested on a crop of wheat, computed at 25 bushels per acre, very much laid; and on barley at 25 bushels per acre, very short in the straw, and if possible more laid than the wheat.

"'The jury taking the different points submitted to their consideration in the order in which they occur above, express—

"'1. Their unanimous opinion that Mr. Hussey's machine, as exhibited by Messrs. William Dray and Company, cut the corn in the best manner, especially across ridge and furrow, and when the machine was working in the direction the corn lay.

"'2. By a majority of eleven to one, that Mr. Hussey's machine caused the least waste.

"'3. Taking the breadth of the two machines into consideration, that Mr. Hussey's did the most work.

"'4. That Mr. Hussey's machine leaves the cut corn in the best order for gathering and binding. This question was submitted to the laborers employed on the occasion, and decided by them as above, by a majority of 6 to 4.

"'5. Their unanimous opinion that Mr. Hussey's machine is best adapted for ridge and furrow.

"'6. This question was referred by the jury to Mr. Robinson, foreman to Messrs. Bellerby, of New York, a practical mechanic of acknowledged ability, whose report is appended.

"'7. That Mr. Hussey's machine at first cost is less price.

"'8, 9. The jury decline to express a decided opinion on these points, in consequence of the state of the weather.'

"'The trials took place on the farm of Robert Fawcitt, of Ormesby, near Middlesborough-on-Tees, who, in the most liberal and disinterested spirit, allowed his crops to be trodden down and damaged to a very great extent, especially on the 25th, when, in spite of the storm, an immense crowd assembled to witness the trials.

"'The jury cannot conclude their report without expressing the great pleasure they have derived from seeing two machines brought into competition that are able to do such very good work, and also at witnessing the friendly, straightforward and honorable way in which the exhibitors of the respective machines met on this occasion.

"'Mr. Robinson, on question 6, says, 'Having carefully examined both machines, and given the subject due consideration, I am of opinion that McCormick's reaping machine, as at present made, is most liable to get out of order.'

"'W. F WHARTON.'"

EXTRACTS FROM A BRIEF NARRATIVE

OF THE

INVENTION OF REAPING MACHINES,

AND AN EXAMINATION OF THE CLAIMS FOR PRIORITY OF INVENTION
BY A MARYLAND FARMER AND MACHINIST.

As to the theoretical portion of the business, the inquiry might be greatly extended, indeed, for past centuries, as we have imperfect accounts of reaping machines being used by the Romans.

It was not until near the close of the past, and within the present century, so far as we can learn, that the subject again claimed much attention of the inventive talent of either this, or foreign countries. Of some half dozen or more attempts made in Great Britain, and recorded in Loudon's Encyclopædia of Agriculture, the Edinburg Encyclopædia, and other similar works, all, or nearly all, relied either upon scythes or cutters, with a rotary motion, or vibrating shears. And although there was "go ahead" about them in one sense of the term, as it was intended for the "cart to go before the horse," none of them appeared to have gained, or certainly not long retained, the confidence of the farmers, for at the exhibition of the "World's Fair in London," 1851, the whole Kingdom could not raise a reaping machine—a practical implement which was considered worth using and exhibiting.

The excitement and sensation produced by the American reapers caused renewed efforts on the part of English inventors, some who had near a quarter of a century previously been endeavoring to effect this "great desideratum," to use an English editorial, and the most conspicuous of these was one invented by the Rev. Patrick Bell, of Scotland. Of the half a score or more and previous inventors in Great Britain—Boyce, Plunkett, Gladstone, of Castle Douglass, Salmon, of Waburn, Smith, of Deanston in Perthshire, etc., etc.—none were waked up from their Rip Van Winkle slumbers, or if they were the world is not advised of it. They all used revolving scythes, revolving cutters, or shears instead. Several trials were made with Bell's in 1828 or 1829, and a very full and minute description with plates was published some twenty-four or twenty-

five years ago, and may be found in Loudon's Encyclopædia of Agriculture.

It was, however, too complicated, too cumbersome and expensive, performed too little service, and required too much tinkering and repairs to be viewed as a practical and available implement. The English farmer found the sickle or reap hook preferable, for it was everywhere resorted to. The cutting apparatus of Bell's consisted of shears, one half stationary, the other vibrating and turning on the bolt that confined them to the iron bar which extends across the front of the frame. The vibrating motion was given by connecting the back end of one shear to a bar—making the bolt the fulcrum—and which was attached to a crank, revolving by gear to the driving wheels.

A reel was used to gather the grain to the shears, and adjustable, back and forth, and higher or lower, to suit the height of the grain. A revolving apron delivered the grain in a continuous swath, and the team was attached to the rear of the machine, *pushing* it through the grain.

We have been more minute in the description of Bell's machine, because it may have been the foundation of some of the early and nearly simultaneous attempts made in this country. In fact it does not admit of doubt that several were nearly identical with Bell's in the use of the shears and reel, though with much more simple gearing, and in the general arrangement. Whether they were original inventions cannot be ascertained. In this country, from 1800 to 1833, out of some fifteen or twenty patents granted for "cutting grain" and "cutting grass," only four appear to have been "restored"—*i. e.*, technically speaking, "not restored"—in models and drawings after the burning of the Patent Office in 1836. Many, if not most of them, were probably improvements in the grain cradle, and mowing scythe; though the names are preserved, there is no record to show for what particulars the patents were granted. There can be no doubt, however, that the inventors considered them valueless, as they were "not restored," though Congress voted large sums to replace the burnt models and drawings, without any expense to the parties. Of those restored, James Ten Eyck's patent is dated 1825, William Manning's in 1831, William and Thomas Schnebly's in 1833, and Obed Hussey's also in 1833.

James Ten Eyck used an open reel; not only to gather the grain, but his cutters or *shears* were attached to, and revolved with the reel—very much, if not exactly, on the principle of shearing cloth.

William Manning used another form of cutters, and quite different from James Ten Eyck's. He likewise used fingers or teeth to support the grain during the action of the horizontal cutters.

William and Thomas Schnebly, of Maryland, also used the reel, with shears as cutters, very similar to Bell's.

Abr'm Randall, or Rundell, of New York (for the name is spelled both ways), was another of the early inventors. His patent of 1835 is not restored, though it is stated his machine was experimented with as early as 1833 or 1834. He also used the reel, and his cutters, it is said, were similar to Bell's—using shears.

T. D. Burrall, of New York, was also one of the early inventors, about 1832 or 1833, but we believe professedly after Bell's, so far as to use a reel and shears.

We now come to 1833, the date of Hussey's patent, and to 1834, the date of C. H. McCormick's first patent. These were known and admitted by all to have been the rivals for popular favor and patronage, from about the year 1844 or 1845 to the opening of the great Industrial Exhibition in London, in 1851. To these, therefore, the enquiry will be more particularly directed.

We must, however, refer back for a brief period to 1831; for although C. H. McCormick's first patent was dated in 1834, yet, when he applied for his extension in 1848, he alleged that *his invention* was prior to Hussey's, as he had invented a machine in 1831, two years before the date of O. Hussey's, and three years before the date of his own patent. The evidence produced (*written* and *prepared* by C. H. McCormick and now on file in the patent office) was deemed inadmissible and informal by the board, and it refused to go on with the examination either as to priority or validity of invention, without notice to Hussey—his patent being called in question by McCormick—to be present when the depositions were taken.

Before, however, receiving the official notice, he was called on by C. H. McCormick in Baltimore, and requested to sign a paper, agreeing or admitting that the testimony he had himself prepared should be considered evidence; i. e., considered formal; alleging that it would save him trouble and expense in going to Virginia. This was declined by Hussey on the ground that he might thus unwittingly injure himself, he having previously applied for an extension of his own patent. Neither was he then aware of the nature of this evidence; nor, until this interview, was he advised of C. H. McCormick's application for extension.

Hussey was subsequently duly notified by order of the board to be present at taking the depositions in Augusta county, Virginia, the board having adjourned three weeks for that purpose.

Either just previous, or subsequent to these proceedings, the case was referred by the commissioner of patents, or board of extensions, to Dr. Page, one of the examiners of the office.

His report is as follows:

"PATENT OFFICE, January 22, 1848.

"SIR: In compliance with your requisition, I have examined the patent of Cyrus H. McCormick, dated 31st June, 1834, and found that the principal features embraced in said patent, viz., the cutting-knife and mode of operating it, the fingers to guide the grain, and the revolving rack for gathering the grain, were not new at the time of granting said letters patent.

"The knife-fingers and general arrangements and operation of the cutting apparatus, are found in the reaping machine of O. Hussey, patented 31st December, 1833.

"The revolving rack presents novelty chiefly in form, as its operation is similar to the revolving frame of James Ten Eyck, patented 2nd November, 1825.

"Respectfully submitted.

"CHAS. G. PAGE, *Examiner.*

"*Hon. Edmund Burke, Com'r of Patents.*"

As some have inquired, and others may inquire, why a patent should issue under these circumstances, we reply that, previous to 1836, but little, if any, examination was made as to priority of inventions, or into preceding patents; the applicant made oath as to his invention, and the patent was issued as a matter of course. And, as another matter of course, if the rival interests clashed, litigation was the result: the courts and juries often decided what they little understood, and at times not at all, after the pleading of well feed lawyers.

This testimony was taken in due form at Steele's tavern, Augusta county, Virginia, McCormick and Hussey both being present. It is too voluminous to copy entire, but we will refer briefly to each, having read them carefully, and obtained certified copies of all, from the patent office.

Dr. N. M. Hitt testified to a reaping machine being made by C. H. McCormick in 1831; it had a straight sickle blade.

William S. McCormick and Leander J. McCormick, brothers of C. H. McCormick, also testified to the making of a machine in 1831.

Mary McCormick, mother of C. H. McCormick, agreed in general with the testimony of her sons; did not doubt but it was correct; "it appears familiar to me," but testified to nothing in particular.

John Steele, Jr.—Was tavernkeeper at "Steele's tavern"; testified as to the year being 1831 or 1832. In his amended testimony, admitted that C. H. McCormick wrote the paper describing the machine for him to testify to; recollects little else about the machine than the straight sickle edge.

Eliza H. Steele refused to testify without first seeing a certificate previously signed by her; admitted that C. H. McCormick wrote it for her to sign; her testimony as to the year depended on the building of a certain house, on which the workmen put 1831.

John McCowan—was a blacksmith; testified that *he* made the "straight sickle blade," and that it was "a long, straight sickle" blade.

This was most singular testimony to found a claim of priority of invention on, and by which to invalidate another man's patent. There was discrepancy in the evidence as to the year of the invention; also whether the machine was intended for one or two horses; how the "fingers" were arranged, and whether of *wood* or *iron*, *above* or *below* the "straight sickle blade." *Two of the brothers—one at least who helped to make, if not also to invent this machine*—testified that the plan or arrangement of the machine here sworn to was changed in 1840, 1841, 1842, or 1843, they did not know which —from nine to ten years afterwards!

John McCowan swears positively that he helped to build the machine, so far at least as to forge "a long straight sickle," but neither he, or a single one of the seven sworn witnesses, "*ladies* and *gentlemen*," testify that the machine ever worked a single hour, or cut as much grain of any kind as would make a single sheaf!

The record shows that "on March 29, 1848, the board met agreeably to adjournment--present, James Buchanan, secretary of state; Edmund Burke, commissioner of patents, and R. H. Gillet, solicitor of the treasury—and having examined the evidence adduced in the case, decide that said patent ought not to be extended."

(Signed) JAMES BUCHANAN, *Sec'y State.*
EDMUND BURKE, *Comm'r Pat's.*
R. H. GILLETT, *Solicitor Treas'y.*

On page 231 of the Reports of Juries for the Great London Exhibition, and now in the library of Congress, we find the following:

"It seems right," says Philip Pusey, Esq., M. P., "to put on record Mr. McCormick's own account of his progress, or some extracts at least, from a statement written by him, at my request." —[PUSEY.]

"My father was a farmer in the county of Rockbridge, State of Virginia, United States. He made an experiment in cutting grain in the year 1816, by a number of cylinders standing perpendicularly. Another experiment of the same kind was made by my father in the harvest of 1831, which satisfied my father to abandon it. Thereupon my attention was directed to the subject, and the same harvest I invented and put in operation in cutting late oats on the farm of John Steele, adjoining my father's, those parts of my present

reaper called the platform, for receiving the corn, a straight blade taking effect on the corn, supported by stationary fingers over the edge, and a reel to gather the corn, which last, however, I found had been used before, though not in the same combination.

"Although these parts constituted the foundation of the present machine, I found in practice innumerable difficulties, being limited also to a few weeks each year, during the harvest, for experimenting, so that my first patent for the Reaper was granted in June, 1834.

"During this interval *I was often advised by my father and family to abandon it, and pursue my regular business as likely to be more profitable, he having given me a farm.* [Italicized by C. H. McC.]

"No machines were sold until 1840, and I may say that they were not of much practical value until the improvements of my second patent in 1845.

"These improvements consist in reversing the angle of the sickle teeth alternately—the improved form of the fingers to hold up the corn, etc., an iron case to preserve the sickles from clogging, and a better mode of separating the standing corn to be cut. Up to this period nothing but loss of time and money resulted from my efforts. The sale has since steadily increased, and is now more than a thousand yearly."

It would be just as conclusive and reasonable for the *father* of C. H. McCormick to claim at this day priority of invention for his Reaper, invented in 1816, "by a number of cylinders standing perpendicularly;" or for "the invention made by my father in the harvest of 1831, which satisfied my father to abandon it." This authority, high and official as all must admit it to be (and italicized, too, by the writer, for a particular object), clearly proves that the invention of 1831 was an abortion, for, if the principle was effective to cut one acre of grain properly, any man of common sense knows that it was equally so to cut one thousand acres; but so complete was the failure, that, "during this interval"—between 1831 and 1834—"*I was often advised by my father and family to abandon it, and pursue my regular business, as likely to be more profitable, he having given me a farm.*"

Again: "No machines were sold until 1840, and I may say that they were not of much practical value until the improvements of my second patent, in 1845." What these improvements were we are also informed: "These improvements consist in reversing the angle of the sickle teeth alternately, the improved form of the fingers to hold up the corn, etc., an iron case to preserve the sickle from clogging, etc. Up to this period nothing but loss of time and money resulted from my efforts."

This letter is the most perfect and complete estopper to priority of invention—not only for 1831, but to 1841 inclusive, if not to 1845, that could be penned. His *pen* cuts a "cleaner swath," as we farmers say, than ever did his Reaper; and this letter, at least, is certainly C. H. McCormick's own "invention," which no one else can lay any claim to. Yet, strange as it may appear, he contended before the Board of Extensions, in order to invalidate Hussey's patent, that he invented a reaping machine nine years before! So has perpetual motion been invented a hundred times—in the estimation of the projectors; and, by his own showing, and on oath, he sold but two machines up to 1842—one of them conditionally sold—being *eleven* years after the alleged invention, and even they had to be re-invented to make them work, or use the previous inventions of others.

In this letter to Philip Pusey, Esq., M. P., C. H. McCormick admits that the reel "had been used before," yet he includes it in his patent of 1834. Both the specifications and drawings in the Patent office conclusively establish the fact that James Ten Eyck *patented* the reel or "revolving rack," or "revolving frame" in 1825, used not only to *gather* the grain as all such devices are used, but by the knives attached to it, also intended *to cut it off*.

It is certain the reel was "no novelty," either in 1831 or 1834, when patented by C. H. McCormick; *he* tells us so himself; and it is most likely the father of C. H. McCormick also used a reel for his "cylinders standing perpendicularly, in 1816," and also for his other plan in 1831, and "which satisfied my father to abandon it." And it is equally probable that most of the "fathers" and the sons, who invented reapers for a hundred years preceding the date of Hussey's patent, used reels;—indeed the reel seemed to be the *sine qua non* by many; most of the inventors we have any clear account of resorted to the reel.

We will now examine another invention patented by C. H. McCormick, in 1847. We here assert and challenge a denial, that from 12 to 14 years after the alleged invention of a reaper by C. H. McCormick in 1831, and from 9 to 12 years after the date of his patent, in 1834, his *raker walked* by the side of his machine, while Hussey's raker *rode on the machine as they always had done* since his first machine that cut the grain like "a thing of life," in Hamilton county, Ohio, in 1833. Yet, in 1847, C. H. McCormick takes out a patent for the *raker's seat!* This *was* a "novelty," and well worth a patent!

His patent of 1847, covering some four or five folio pages, is altogether to change "the construction of the machine," to admit of, and to patent the raker's seat; the substance of the whole is comprised within the following brief extract from the patent of 1847:

"And the gearing which communicates motion to the crank is placed back of the driving wheel, which is therefore subject to be clogged by sand, dirt, straw, &c—*and in consequence of the relative position of the various parts, the attendant is obliged to walk on the ground by the side of the machine, to rake the cut grain from the platform as it is delivered and laid there by the reel.* These defects which have so much retarded the introduction into practical and general use of reaping machines, I have remedied by my improvements. the nature of which consists in placing the driving wheels further back than heretofore, and back of the gearing which communicates motion to the sickle, which is placed in a line back of the axis of the driving wheel, the connexion being formed, &c., and also bringing the driving wheel sufficiently far back to *balance the frame of the machine with the raker on it*, to make room for him to sit or stand on the frame," &c., &c.—" *which cannot be done, if the raker walks by the side of the machine, as* HERETOFORE."

Now if C. H. McCormick's testimony in his own favor, can be considered reliable, he certainly had not *invented* a seat for his raker as late as 1845—and not long prior to 1847, when he patented it; and just *fourteen years* after Hussey had used it *every year*, successively. The raker's seat therefore was just as *original* an invention as the reel.

The " straight sickle blade " but cut one way only, and abandoned some 10 or 12 years after its conception in 1831, as he states, appears to be the only original idea—properly belonging to whom it may—in the patent of 1834. As to the " foundation " of the machine, viz: —the platform, cog-wheels, cranks, &c. &c., they have been used by every projector in reaping machines, for a century.

A machine exhibited at the World's Fair in London, by C. H. McCormick, had the " straight sickle blade," but alternating the cuts every few inches.. With such a machine it is impracticable to cut grain, much less grass, efficiently, divested of the reel. That plan has since been changed to a much more efficient blade, the scolloped edged sickle. That it was used in the North Western States several years previous to its adoption by C. H. McCormick, we believe admits of just as little doubt, as rests with the priority of invention of the Reel, Raker's seat, &c.

A BRIEF HISTORY

OF THE ORIGIN OF THE

McCORMICK REAPER,

INCLUDING A FEW INCIDENTS FROM THE LIFE OF

ROBERT McCORMICK,

AS IT APPEARED IN THE "FARMER'S ADVANCE," MARCH, 1882, PUBLISHED BY THE

McCORMICK HARVESTING MACHINE COMPANY,

C. H. McCORMICK, PRESIDENT.

THE INVENTOR OF THE REAPER.

He to whom this title belongs needs no introduction to the farmers of this or any other country, and yet a brief outline of some incidents in the life of the man whose brain conceived the practical idea of reaping grain by machinery, and whose business tact and management made that idea a success, will not be without interest to those using the machines bearing his name.

Cyrus Hall McCormick is the eldest son of Robert McCormick and Mary Ann Hall McCormick, and was born in Rockbridge County, Virginia, February 15th, 1809. His father was a native of Rockbridge, and his mother a native of Augusta County, in the same State, and both were of Scotch-Irish descent. The father (Robert McCormick) was a farmer, owning several farms, with saw and grist mills, and having shops for blacksmithing, carpentering, machinery, etc., in which his own mechanical ingenuity and that of young Cyrus found scope for exercise and experiment. The facilities for acquiring an education in those days were very limited, and if a boy became educated it was more through the natural aptitude of a brilliant mind, in reading lessons from nature and artificial and mechanical surroundings, than from any advantages offered by the common schools. Born on a farm, and inheriting from his father an inventive turn of mind, he very early in life saw that agriculture stood in great need of inventions to enable it to achieve its highest possibilities, and when only fifteen

years of age he gave some evidence of what has since distinguished him, by constructing a "cradle," which he himself used in the harvest field.

The elder McCormick (Robert) was the inventor and *patentee of* several valuable machines, among which were those for threshing, hydraulic hemp-breaking, etc.

In 1816 he devised a reaping machine with which he experimented in the harvest of that year, and when baffled and disappointed in his experiments, he laid it aside and did not take it up again until the summer of 1831. He then added some improvements to it, and again tested its operation in a field of grain on his farm, when he became so thoroughly convinced that the principle upon which it was constructed could never be practically successful in cutting any promiscuous crop of grain as it stands in the fields, that he at once determined to abandon all further efforts at making it a success. The radical defect in his machine was that it sought to cut the grain as it advanced upon it in a body, by a series of stationary hooks placed along the front edge of the frame work, having an equal number of perpendicular cylinders revolving over and against the edge of the hooks, with pins arranged on the periphery of the cylinders to force the stalks of grain across the edges of the hooks, and so carry the grain in that erect position to the stubble side of the machine, there to drop it in a continuous swath. These different separations of the grain at the different hooks along the front edge of the frame work, for such subsequent delivery in swath at the side of the machine, especially in a crop of tangled grain, were found to be impracticable.

The son's first effort in the improvement of agricultural machinery after having made his cradle was in the construction of a "hill side" plow,* patented in 1831, for throwing alternate furrows on the lower side, being thus a right or left-hand plow. This plow was, however, superseded by a very superior one invented by him, called the self-sharpening horizontal plow, for which letters patent were granted to him in 1833. The latter plow was simple, strong and durable, and did excellent work as well on level as on hilly ground. And but for the fact that the mind and efforts of the inventor became more absorbed in the pursuit and improvement of the greater invention of his reaping machine about this time, which actually prevented him from supplying the rising demand for this plow, he believed it would have become, properly managed and manufactured, a valuable and highly appreciated implement of husbandry, being the first perfect self-sharpening plow ever invented.

In 1831, when but twenty-two years old, a short time after his

*See letter of W. S. McCormick, page 9, as to invention of plow.

father had made the final trial of his machine, Cyrus H. McCormick invented the machine which has made his name so famous, and conferred upon mankind such unnumbered benefits.

After observing the character of the experiment made with his father's machine, he came to the conclusion that ripe grain, standing as it is usually found, and in a more or less tangled state, could only be successfully harvested by taking it as a body, without the separations at different points along the cutting apparatus (as done by his father's machine). It then occurred to him, that to cut and save the grain properly, a sufficient motion for that purpose given to an edged instrument was only necessary, and that in advancing upon the body of grain to be cut by a machine, the requisite motion in addition to the forward motion of the machine, might be supplied laterally by a crank attached to the end of a reciprocating blade. This principle as invented by Mr. McCormick, is the foundation of all reaping machines.

In 1831, the reaper triumphed in the harvesting of several acres of oats. The following year it cut fifty acres of wheat. For several years, while experimenting with, exhibiting its operation in the field, and working the reaper himself (though operating well in his hands) he deemed it best to postpone putting it in market.

His first patent was granted in 1834. In 1845 he removed to Cincinnati, for the purpose of establishing himself there, and during that year he obtained a second patent for several valuable improvements. Additional patents were granted for still more valuable improvements in 1847 and 1848.

About the year 1850 the two brothers of Mr. McCormick, William S. and *Leander J., both younger than himself, were introduced into his business at Chicago. In 1859 they were associated with him as partners in the manufacturing, and have rendered important assistance in the business; William S. being at the head of the office department, and Leander J. at the head of the manufacturing department; and the latter is now the vice-president of the McCormick Harvesting Machine Company. In the death of his brother, William S., in 1865, Mr. McCormick sustained a great loss. He was a man of rare excellence of character and superior business abilities.

Owing to the various modifications that the world of intellect employed in the business of reaper building, when the free use of Mr. McCormick's expired patents gave them the fundamental prin-

* See extract from C. H. McCormick's memorial to Congress, page 17, in which he states that, in the year 1847, "I gave my brother (L. J. McCormick) a one-third "part in that contract, to induce him to attend to the manufacture at that place "(Cincinnati)." Leander J. McCormick came to Chicago in 1848 as a partner, where he has remained ever since, not all the time as a partner

ciples to work upon, fierce competition commenced, which has been continued to the present day.

With dauntless courage Mr. McCormick pressed forward against this united opposition, and at all times he has had the satisfaction of seeing his machines acknowledged as the best manufactured. He has been the champion in every contest in which his machine has ever been engaged, beginning with a trial with Obed Hussey's machine in 1843, at Richmond, Virginia, where a jury of judges appointed by the spectators upon the field, awarded him the victory. And as evidence of his subsequent triumphs, he holds the gold medal of the American Institute, given in 1849; the only prize, the grand council medal, given at London in 1851; the grand gold medal given at Paris in 1855; the grand prize gold medal given at London in 1862; the silver medal, the highest prize awarded at a field trial in Lancashire, England, in 1862; the grand gold medal given at Hamburg in 1863; the grand prize given at Paris in 1867, the highest honor of that great exposition, together with the decoration of the Cross of the Legion of Honor; two grand gold medals given at Vienna in 1873; two bronze medals, the highest prize given at Philadelphia in 1876; the grand gold medal of the Royal Agricultural Society of England, in a competitive trial of self wire-binding harvesting machines, in 1878; the only grand prize given for harvesting machines at Paris, in 1878, together with the decoration of the Officer of the Legion of Honor, with the election by the French Institute as a member of the Academy of Sciences in the department of Rural Economy, as having done more for the cause of agriculture than any other living man.

In 1879 the McCormick machines were awarded the highest prize at the International Exhibition at Sydney, and in 1880 the highest award—a gold medal for every variety of harvesting machinery—at the World's Fair at Melbourne, Australia. In August, 1881, the McCormick Twine Binder (the latest addition to the list of these famous harvesting machines) received from the Royal Agricultural Society of England the gold medal for the most perfect twine binder, after competition at Derby, England, with all the prominent machines from Great Britain and America.

These triumphs were the results of hard-fought battles, in which the competing machines vere not always the strongest point of the enemies' line, but unreasonable prejudice was. At the World's Fair in London in 1851, before the trial which resulted in a grand victory for Mr. McCormick's reaper, the London *Times* characterized the machines as "a cross between an Astley chariot, a wheelbarrow and a flying machine." This expression of ridicule voiced the foreign sentiment which met Mr. McCormick at this first international exhibition, but his victory was so absolute that this same

journal pronounced the reaper "the most valuable contribution to the exhibition, and of sufficient value alone to pay the whole expenses of the exhibition." Thus, through the difficulties that would have disheartened a less determined man, he pressed steadily forward, giving battle to all who offered battle, until the world freely acknowledged him to be the inventor of not only the first, but also of the best reaping machine.

Unlike most other great inventors, Mr. McCormick has had the business tact, shrewdness and energy to become the manufacturer of the machine he invented, and to keep it in point of superiority far in advance of all its competitors or imitators during the past fifty years, and at the same time to push its sale throughout the civilized world to such an extent that its name is a household word literally at the ends of the earth.

Perhaps the distinguishing trait in Mr. McCormick's character that has more than anything else tended to crown all his undertakings with success, has been his invincible will and indomitable courage.

Sometimes he seems to a stranger slow and cautious in making up his mind to any course of action, but when once his mind is made up, he is as firm as the everlasting hills in his purpose, and nothing seems capable of thwarting that purpose.

No impediment is too great, no combination of difficulties too intricate, and no opposition too strong for him to overcome. He can wait and patiently bide his time to accomplish a purpose, but when action is necessary at any time he resolves and executes with promptness and decision.

Mr. McCormick has lived in Chicago since 1847, and in the bright evening of his days lives to enjoy the well-merited honors and riches he has earned.

We suppose Mr. McCormick has been the recipient of more honors from the hands of his fellow-men of all ranks and stations — from the hired laborer in the harvest field to the emperor on the throne — than any other living inventor, and yet he is one of the most modest and unassuming of men, while rounding out the measure of his life at the head of the great business bearing his name and in the midst of his happy family, in deeds of benevolence and philanthrophy.

His name will go down to posterity as one of the great benefactors of the human race, whose victories have been won in the successful effort to lessen toil and bless mankind.

ACCOUNT OF HONORS AWARDED IN EUROPE.

The following is an extract from an article which appeared in the Chicago Tribune of January 1, 1880, headed

"THE TRADE BOOM."

HARVESTING MACHINERY.

"It remained for this last and greatest, the Exposition Universalle of 1878, to fittingly crown the inventor and his work. There the McCormick harvester and inventor received the great prize gold medal, being the only harvesting-machine to receive this distinction; though other machines, and the McCormick as well, were given lesser honors.

"While the exposition thus singled out this harvester for the highest honors in its power to bestow, the inventor, Mr. Cyrus H. McCormick, was decorated by the French nation as an officer of the Legion of Honor for his distinguished services to mankind.

"But one other American of fame, and it must be all the more gratifying to the recipient that, in both cases, the proud guerdons have been won through victories in peace rather than war. But France has not yet done with showering honors on the head of the inventor, for that world-famed body of savans, the Institute of France, recognizing that Mr. Cyrus H. McCormick had done more to elevate agriculture than any other man the world has produced, elected him to membership.

"In 1878, also, the McCormick received the unprecedented distinction of a gold medal from the Royal Agricultural Society of England, at the Bristol trials, where a great number of harvesters were tried by the most crucial of tests.

"Mr. McCormick is a plain, unpretending, hard-working citizen of Chicago, who undoubtedly values most highly of all his victories the simple recognition by the people of all the civilized world of the superiority of the McCormick harvester over all others. And this is shown by the widely extended and constantly increasing demand for these harvesters, which necessitates, each year, increasing facilities for manufacture.

"The McCormick reaping and mowing machines were never so popular as now, and the company manufacturing them (the old or new) never more prosperous than now."

The foregoing letter brought out, shortly afterwards, the following article in The Factory and Farm, January 15, a journal of American agricultural industries and farm implements, published in Chicago:

Was McCormick the Inventor of Harvesting Machinery?

And as such was he entitled to the honors received by him from France?

The *Tribune* of January 1st, in its extra, purports to give facts and figures regarding "The Trade, Commerce and Manufactures of Chicago." Under the head of "Harvesting Machinery," some statements are made so utterly untrue and contrary to the records, that, in justice to the public, they should be flatly cotradicted as they deserve. The article in question glorified C. H. McCormick as "the great inventor" of harvesting machines, the great genius which (?) evolved the idea and perfected the invention which has been of such untold benefit to mankind"; and referring to his success in France, tells us that "it remained for this last and greatest, the *Exposition Universale* of 1878, to fittingly crown the inventor and his work" by giving the McCormick harvester and binder the first prize, and by loading him, the supposed inventor, with decorations and unusual honors. Now, while we have no disposition to question the merits of the so-called McCormick harvester and binder, which, without doubt, is a good machine—though the judgment of foreigners as to its value is of no consequence—we do assert that C. H. McCormick was not entitled to any of the honors showered upon him as its inventor. To be more explicit, he not only did not invent this said machine, nor mechanically assist in the combinations of the inventions of others which produced it, but he never invented or produced any essential elementary part in any reaping or harvesting machine from first to last. These assertions are broad, but absolutely true. They stand squarely upon the records and the history and state of the art. C. H. McCormick, or any one for him, cannot deny them with proofs, therefore he is not entitled to recognition as the man who "had done more to elevate agriculture than any man the world has produced," because of his supposed inventions in this line; but, on the contrary, that the development of Western agriculture has elevated him, and that he has more money, and received more honors, "than any man the world has produced," by appropriating the brains of others, and the credit due them as inventors, are propositions much more defensible. Without questioning his

ability as a business man and manufacturer, but with reference to these assumptions of invention only, let us search the records: A short history of the progress of reaper invention, with facts and figures, will be interesting information. For a better understanding of the subject, let it be understood that the essential features of a grain-harvesting machine (first assuming that it must have carrying wheels and frame) are the sickle and guard, the platform to receive the cut grain, and the reel to assist in the cutting and laying of the cut grain upon the platform, and there must be also some method of delivering the grain from platform to ground, either by manual operation or automatic devices. These are elemental principles—not one of them the invention of C. H. McCormick. Machinery mounted on wheels, for harvesting grain, was used in Gaul, and known also to the Carthaginians about the beginning of our Christian era, and all the essentials above described were invented, combined, and publicly, though not generally, used in Great Britain during the early part of this century.

American invention seems to have begun in 1803, when Richard French and R. T. Hawkins, of New Jersey, showed a reaper having ground and grain wheels, with horses attached at side and forward of cutting bar, as is usual now. From December 28th, 1805, to August 8th, 1828, twelve patents were granted by the United States on reapers. In 1831 Wm Manning, of Plainfield, N. J., invented a a practically operative machine, which did good work, and was very little different from the ordinary reaper in use twenty or twenty-five years ago; but the man who is intitled to the most credit, as inventor and pioneer in this business, is Obed Hussey, who, December 31st, 1833, patented the machine (successfully operated in previous harvest, well known and in use since to this day), which combined all the main features—except the reel, which was then an old device—of practical reapers, down to the time, at least, when "harvesters" so-called came into the field. Hussey's machine was introduced into Illinois in 1834, and in New York, Missouri, Pennsylvania and Maryland in following years. Mark that all these came before C. H. McCormick, who, in June, 1834, obtained his first patent, in which he particularly claimed a vibrating sickle having smooth edge, or toothed like a saw. His other devices were unimportant or not novel, and these special claims proved useless, and were discarded by himself when he made machines for the public. The "great idea" which he then "evolved" added substantially nothing to the progress of the art. Some twenty-five or thirty reaper patents were issued, and several differently named machines manufactured between this time and his next evolution, January 31st, 1845, which latter consisted chiefly in claims for lance-head-shaped guards, and reversed serratures on a

straight-edged sickle. One device proved not novel, as it had been used by Moore & Hascal from 1835 to 1839. And both "great ideas" were of such "untold value to mankind," that but few could now tell what they were. His other patents cover details or points peculiar to his own machines, and are not elementary. At this time there were several manufacturers of reapers, which latter were then, and for some years after, of the old style, from which the cut grain was delivered upon the ground through manual operation; and the next great advance was the application of automatic devices to perform this function. Reapers thus constituted were known as "self-rakers." C. H. McCormick, instead of "keeping pace with the march of time," kept on building the old style of machine year after year, while other manufacturers were inventing, perfecting and developing the self-raker, until finding at last that he was falling entirely to the rear, he bought up some and settled for other self-rake patents, and commenced building that style of reaper. In the meantime no one was paying tribute to McCormick for the use of his "great inventions." He tested the strength of his patents in suit against the Manny's, and got beaten, but Hussey sued him and obtained judgment. Other manufacturers had invented, perfected and introduced the jointed-bar, two-wheeled mowers, after which he began manufacturing them, and again he was sued and judgment obtained. About 1860 a machine having marked peculiarities was brought out by the Marsh Bros. in DeKalb County, Ill. It carried two binders, and being of entirely different style and shape from ordinary reapers, it was called a "harvester" Its manufacture began at Plano, in 1863, since which time it has been continually before the public. Everybody knows that it is the pioneer harvester—the founder of the class now known by that general name. From 1870 and onward several other harvesters sprung up and were manufactured, differing more or less in minor points from the Marsh. Again C. H. McCormick had failed to keep his place "in the van"—he was the last man in the rear—for he, in connection with his partners (who seem to be generally ignored), only commenced building harvesters in 1875, and with the usual luck of such pioneers, they were soon after sued for infringement by the Marsh Bros.—suit is still pending. Next year the Withington binder was attached, and the new combination was dubbed the McCormick Harvester and Binder. Except some minor points in attachment of parts, there was no invention in the case, and the little credit of making this successful combination of others' ideas is due to his partners, who did the work for which, as the supposed inventor, he has absorbed all the honors. Long before they built their harvester and binder, the other manufac-

turers, notably Walter A. Wood & Co., had developed and were placing such machines on the market in large numbers.

Each grand step in the development and perfection of harvesting machinery was bitterly opposed by C. H. McCormick in practice and in precept, until it had established itself in spite of him, and had forced him to "keep pace with the march of time," for he was the sort of pioneer that hangs on the tail of progress. And from the facts herein given, people can draw their own conclusions as to whether France did well in thus "showering honors on the head of the great inventor"—this "plain and unpretending citizen" who so modestly wears his hard-earned laurels, but seems to want the public often reminded why and where he got them, in which laudable effort we hereby humbly assist.

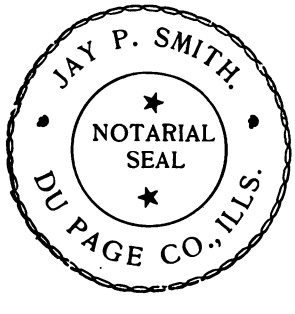
NOTARY PUBLIC'S CERTIFICATE.

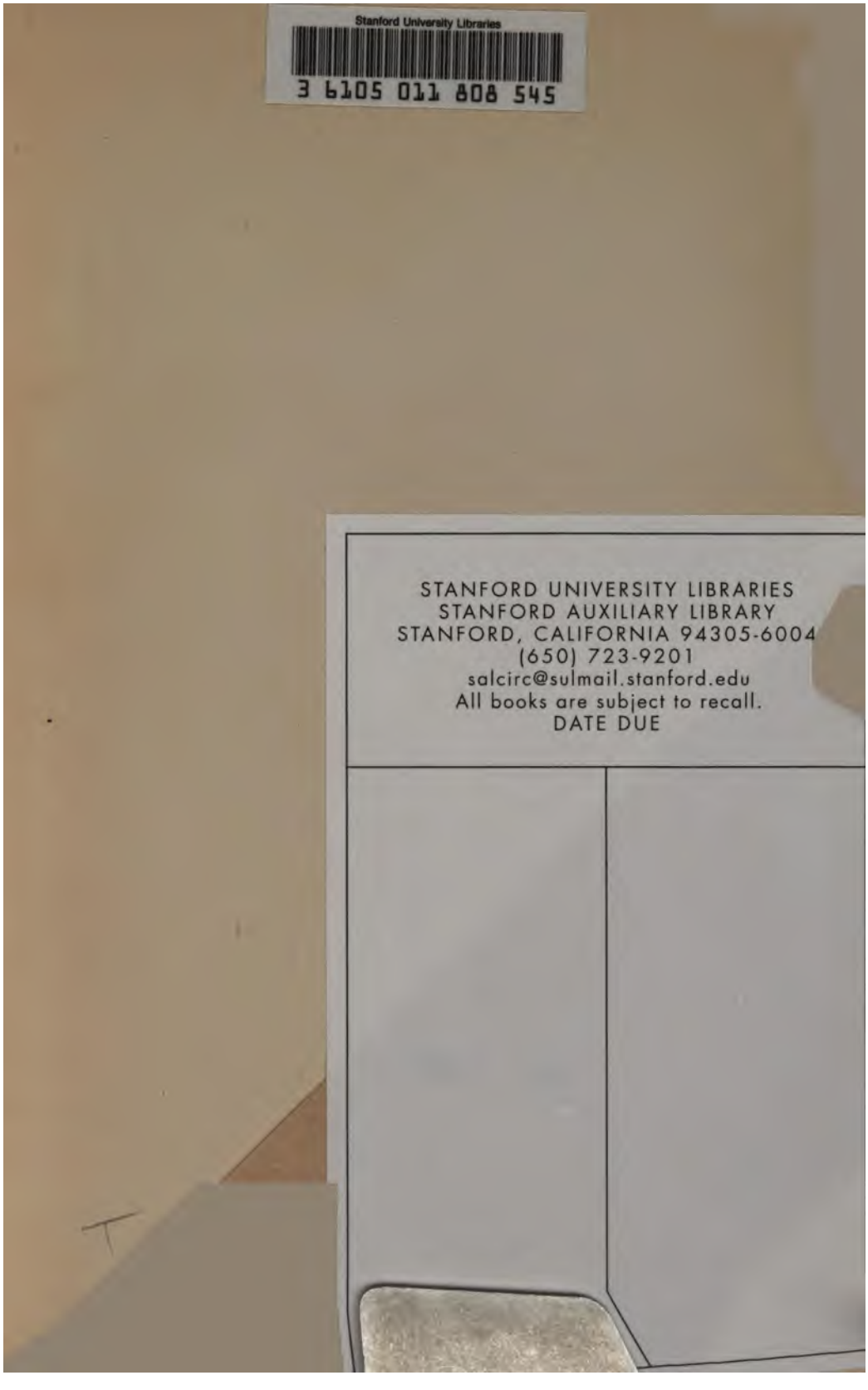
State of Illinois, } ss.
COUNTY OF DU PAGE. }

I, JAY P. SMITH, a NOTARY PUBLIC in and for the County and State aforesaid, DO HEREBY CERTIFY that the foregoing, carefully read by me, is a true and complete and correct copy of the pamphlets entitled "A Brief Narrative of the Invention of Reaping Machines;" "Hussey's Reaping and Mowing Machines in England," and a "Review of the Pamphlet of W. N. P. Fitzgerald. In opposition to the Extension of The Patent of Obed Hussey," bearing the dates 1854 and 1855 respectively, on the title pages.

IN WITNESS WHEREOF, I hereunto set my hand and NOTARIAL SEAL, this 19th day of March, A. D. 1897.

JAY P. SMITH.

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